The Mining Journal,

RAILWAY AND COMMERCIAL GAZETTE

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

No. 1710.—Vol. XXXVIII. LONDON, SATURDAY, MAY 30, 1868. {STAMPED .. .SIXPENCE, UNSTAMPED--FIVEPENCE

MR. JAMES CROFTS, STOCK AND SHAREBROKER,
No. 1, FINCH LANE, CORNHILL.
(Established 1842.)

HOLDERS of mining shares difficult of sale in the open market may find purchasers for the same through Mr. CROFTS' agency. Also parties requiring advice how to act in the disposal or abandonment of doubtful mining stocks may profitably avail of Mr. CROFTS' long experience on the market in all cases of doubt or difficulty, legal or otherwise.

PROSPER UNITED.—The shareholders in this mine have been informed by circular from the purser of an important improvement in the 60 cross-cut, where the lode is 3 ft. wide, and worth £20 per fm. for tin. There is also an improvement in the 50 west, now worth £8 per fm. Mr. CROFTS has a few shares for sale at 11s. 6d. per share net.

Mr. CROFTS advises the purchase of SUMMER HILL and WEST GODOLPHIN shares at the present low prices. SPECIAL BUSINESS in both these mines below the market quotations.

Bankers: National Bank of Scotland, 37, Nicholas-lane, E.C.

MR. JOHN BUMPUS, 44, THREADNEEDLE STREET, has FOR SALE the following shares, free of commission :—

100 Anglo-Brazil,, 16s. 3d	100 Frontino, 14s. 3d.	50 Redmoor, 2s. 3d.
25 Chontales, £2.	20 Frank Mills, 17s.	1 South Caradon, £400.
50 Chontales Royal., £1.	5 Great Laxey, £17¼.	50 South Grenville, 3s 6d
15 Chiv. Moor, £6 6s. 3d.	20 Glasgow Cara., 18s 6d	20 South Darren, 31s. 6d.
25 Carn Camborne, 7s 9d	20 Gt. No. Laxey, 12s. 6d	10 St. John delRey, £18⅜
20 Chiverton, 41s. 6d.	10 Gt. Wh. Vor, £17¼.	20 So. Condurrow, 7s. 3d
30 Don Pedro, £2 19s. 6d	10 Marke Valley, £6 17 6	1 West Tolgus, £46.
50 E. Caru Brea, 17s.	50 North Treskerby, 18s.	50 Wheal Crebor, 3s.
20 East Laxey, 2s.	30 New Lovell, 18s. 6d.	40 W. Pr. of Wales, 7s.
30 East Grenville, 36s.	20 North Crofty, £2 6s 3	50 W. Drake Walls, 7s 3d
50 E. Rosewarne, 5s. 9d.	50 Prince of Wales, 43s.	30 Wh. Grenville, 32s. 9d
15 East Caradon, £4¼.	35 Pestarena, £2 12s. 6d.	

GUIDE TO INVESTORS.—THE STOCK, SHARE, AND FINANCE REGISTER for June contains a comprehensive review of the Stock and Share Markets; a list of all the dividends paid in May; a comparative estimate of the profits of the several descriptions of shares; a selection of Investments paying 10 to 22 per cent.; and information for intending investors.—6d. per copy, or 5s. annually, post free.
Published by Mr. BAKER LELEAN, at his offices, 11, Royal Exchange, London.

MR. WILLIAM WARD,
STOCK AND SHAREDEALER,
No. 29, THREADNEEDLE STREET, LONDON, E.C.

MR. JOHN BATTERS, STOCK AND MINING SHAREBROKER, 13, THROGMORTON STREET, LONDON, E.C.

MR. WILLIAM SEWARD, STOCK AND MINING SHARE BROKER, 19, THROGMORTON STREET, LONDON, E.C.
Every description of shares BOUGHT and SOLD at the best market prices.

MR. THOMAS SPARGO, STOCK AND SHAREDEALER,
224 & 225, GRESHAM HOUSE, OLD BROAD STREET, LONDON, E.C.

MR. J. B. REYNOLDS, 70 and 71, BISHOPSGATE STREET WITHIN, LONDON, E.C., STOCK AND SHAREDEALER.
Established Eleven Years. Bankers: City Bank.

MESSRS. POWELL AND MOSS, SHAREDEALERS,
78, OLD BROAD STREET, LONDON, E.C., and Mining Exchange, have large transactions in Prince of Wales, North Treskerby, Frontino, North Crofty, Chiverton, Chiverton Moor, and West Chiverton. Parties dealt with at a fair margin on the market price.
References exchanged.
Bankers: City Bank, Finch Lane.

JOHN RISLEY, (SWORN) STOCK AND SHAREBROKER, 48, THREADNEEDLE STREET, LONDON, E.C.
Business transacted in the British Funds, Railway and other Stocks, Foreign Bonds, &c., on the usual commission, 1¼ per cent. on mining and other shares, above £2; and at £2 and under 6d. per share.
Bankers: London and Westminster, Lothbury.

MR. EMANUEL BEAZLEY,
STOCK AND SHAREDEALER,
3, CROWN COURT, THREADNEEDLE STREET, LONDON, E.C.
Member of the Mining Exchange.
SPECIAL INFORMATION of the following undertakings, viz.:—Montgomeryshire Lead and Barytes, New Clifford, Chontales, Clifford Amalgamated, West Frances and Emily Henrietta can be had on application.

WALTER TREGELLAS, 122, BISHOPSGATE STREET WITHIN.

MESSRS. WILSON, WARD, AND CO.,
STOCK AND SHAREDEALERS,
16, UNION COURT, OLD BROAD STREET, LONDON, E.C.
Special business in Penhale United, New Great Consols, Frontino, and North Treskerby.

MR. JAMES HUME, STOCK AND SHAREDEALER,
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Mr. HUME has business in every description of Railway and Mining Shares.

MR. T. ROSEWARNE, 81, OLD BROAD STREET, LONDON, E.C.
T. ROSEWARNE, having returned from his tour of inspection through Devon and Cornwall, is enabled to advise parties what mining shares they should buy or sell.
T. R. has SPECIAL BUSINESS in the following shares :—

Bedford Consols.	East Lovell.	West Chiverton.
Bedford United.	East Carn Brea.	Wheal Grenville.
Chontales.	Marke Valley.	Prince of Wales.
Chiverton Moor.	North Treskerby.	St. John del Rey.
Devon Consols.	Great North Downs.	

I can recommend three mines which are safe for a great rise within the next three months.
Money lent to any extent upon good mining shares.
Bankers: Bank of England.
Office hours 10 to 4.

BARTLETT AND CHAPMAN, STOCK AND SHAREDEALERS, 2, BUCKLERSBURY, LONDON, E.C.
Business transacted in every description of securities at closest market prices, free of commission.
We recommend the immediate purchase of Lovell Consols, Great South Chiverton, East Chiverton, Great Laxey, and Tamar Valley shares. Particulars and price on application.
Our "Investment Circular and Financial Record," forwarded post free on application. Bankers: London and Westminster Bank.

MR. WILLIAM MARLBOROUGH, 1, GREAT ST. HELEN'S, BISHOPSGATE STREET, LONDON, E.C. (Established 13 years), has FOR SALE the FOLLOWING SHARES, at nett prices :—

50 Anglo-Brazil., 15s. 6d	5 East Basset, £8⅜.	10 Summer Hill, £5.
10 Chiverton, £1 16s.	25 Gt. Retallack, £2¼.	3 W. Chiverton, £62½.
5 Chiv. Moor, £6 1s. 3d.	25 Glan Alun, 7s.	5 West Caradon, £4⅜.
30 Caldbeck Fells, 12s 3d	5 Gt. Wh. Vor, £17¾.	25 W. Godolphin, 17s. 9d
40 Chontales, £1 18s. 9d.	25 Gunnisla. (Clit.), 27s 6	30 Wh. Grenville, 31s 9d.
10 Clifford, £5 3s. 9d.	30 No. Treskerby, 17s 6d	2 Wh. Mary Ann, £22½
40 Drake Walls, 9s.	20 Okel Tor, 12s.	5 Wh. Trelawny, £8 16 3
10 E. Caradon, £4 7s. 6d.	30 Prince of Wales, 42s 3d	1 Wh. Seton, £81 8s. 9d
5 East Lovell, £7 8s. 9d	30 Prosper Unit., 11s. 6d	5 Wheal Buller, £8⅛
20 East Grenville, 35s. 9d	20 South Darren, 31s. 3d.	50 West St. Ives.

Mr. M. transacts business, either as BUYER or SELLER, in all kinds of securities at closest market quotations.

MR. GEORGE BUDGE, STOCK AND SHAREDEALER,
No. 4, ROYAL EXCHANGE BUILDINGS, LONDON, E.C. (Established 20 years), has FOR SALE at nett prices :—125 West St. Ives; 70 Crebor, 3s. 9d.; 50 Snaefell, 10s.; 30 Okel Tor, 14s.; 1 Devon Great Consols, £460; 100 Gwydyr Park, 3s. 9d.; 80 Pendeen, 7s.; 20 Rose and Chiverton; 25 Prince of Wales, 42s. 9d.; 100 Glan Alun; 35 East Rosewarne, 6s.; 40 Caldbeck Fells; 1 Wheal Basset, £64; 20 Wheal Grenville, 33s.; 10 Great Retallack, £2⅜; 2 Providence, £28; 5 East Caradon, £4¼; 50 Frontino and Boliva; 60 Anglo-Italian, 15s. 9d.; 50 West Wheal Kitty, 10s.; 80 Prosper United, 12s.; 60 Rosa Grande; 20 North Treskerby, 17s. 9d.; 100 Lovell Consols; 35 Colquite and Callington; 75 Redmoor, 3s. 6d.; 60 West Drake Walls; 5 Maes-y-Safn; 50 Don Pedro; 40 Mining Association, 13s.; 25 South Darren; 60 Drake Walls, 10s.; 2 Herodsfoot; and 1 South Caradon.

THE STOCK AND SHARE MARKETS.

The Stock and Share Markets during the last three weeks have shown increased activity, and, during the last few days more especially, have been in a very buoyant state. In addition to a large speculation now going on in all descriptions of stocks and shares, it is also well known that the general public, who have been waiting so long for the lowest point, are now *bona fide* buyers for investment—hence the great rise which has taken place.

The fine weather, the expectation of a good harvest, the fall in the price of corn recorded weekly, the more cheerful feeling, which is now entertained regarding political matters both at home and abroad, cheap money, and the better feeling which prevails respecting the home and foreign trade, all combine to favourably affect the Share Markets, and the effect of their influence on them is only now beginning to be felt.

In the Metal Market there is also more activity, with a brisker demand for copper, tin and lead, and no doubt, before long, we shall see an important rise in the price of these articles.

I, therefore, confidently suggest that no time should be lost in making a judicious selection in Cornish Dividend and Progressive Mines at the present low prices. This it will be my pleasure to point out to all who may entrust me with their confidence and business.

PETER WATSON, STOCK AND SHAREDEALER,
79, OLD BROAD STREET, LONDON.

CORNISH AND DEVON MINES.—FOREIGN GOLD MINES.
PETER WATSON'S "WEEKLY MINING CIRCULAR AND SHARE LIST—SYNOPSIS OF CORNISH AND DEVON MINES," of Friday, May 29, No. 481, Vol. X., price 6d. each copy, forwarded on application, contains information on all the leading Cornish and Devon Mines, Foreign Gold Mines, &c., and Remarks on the Stock and Share Markets.

INVESTMENT OR SPECULATION.—A SELECTED LIST OF RAILWAYS, BANKS, MINES, COLONIAL SECURITIES, FOREIGN GOVERNMENT BONDS, &c., forwarded to *bona fide* investors on application, in addition to the high rate of interest many of the above are paying, there is now every probability of a great rise in market value.
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(three doors only from Hercules-passage, entrance to the Stock Exchange).
Twenty-three years' experience.
(Two in Cornwall and Twenty-one in London.)
Bankers: The Alliance Bank, and the Union Bank of London.
References given and required (when necessary) in all the principal towns of the United Kingdom.

MR. EDWARD COOKE,
FOREIGN AND BRITISH MINING SHAREDEALER,
76, OLD BROAD STREET, LONDON, E.C.
Is a BUYER or SELLER of Don Pedro, Pestarena, Port Phillip, Rossa Grande, Anglo-Brazilian, St. John del Rey, Frontino, and Chontales, at market prices. Orders in same, either by telegram or post, will have prompt attention.
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Has REMOVED TO 42, CORNHILL, LONDON, E.C.

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The shares in the following mines are worth buying at the present prices:—Tamar Silver-Lead, Montgomeryshire Lead and Barytes, New Clifford.
Full particulars of the above on application.

INTENDING INVESTORS.—The "FINANCIAL GAZETTE," published by Mr. Y. CHRISTIAN, should be consulted with a VIEW to the SAFE EMPLOYMENT of CAPITAL. It contains Original Articles, a Review of the Money Markets, and a selection of Investments paying 10 to 17 per cent., and such information as is necessary to guide intending investors.
6, Bond-court, Mansion House, London, E.C.
Bankers: Bank of England.

JOHN WILLIAM HUTCHINSON has instructions TO SELL the following SHARES at nett prices :—

1 Cargoll.	20 E. Grenville, 35s. 6d.	20 Rossa Grande, 19s 3d
50 Chontales, £1 16s. 3d.	20 Gt. Retallack, £2 5 6	15 So. Condurrow, 8s. 9d
10 Chiv. Moor, £5 18s 9d	25 No. Treskerby, 16s 3d	20 Wh. Grenville, 31s. 6d
5 Clifford, £5⅜.	10 No. Crofty, £2 3s. 9d.	5 Wt. Caradon, £4 16s 3
20 Don Pedro, £1 19 6 pm	25 P. of Wales, £2 3s. 6d	2 Seton, £81½.

WANTED TO PURCHASE, sellers state number and lowest cash price :—Trelawny, West Frances, Gonamena, Mary Ann, Wheal Kitty (St. Agnes).
For SPECIAL SALE :—50 West Godolphin (offer wanted).
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Correct Daily Price List can be had on application.
Money advanced to any amount on legitimate stocks and shares.
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MR. E. J. BARTLETT, STOCK AND SHAREDEALER, AND FINANCIAL AGENT, No. 30, GREAT ST. HELEN'S, LONDON, E.C., has SPECIAL BUSINESS, as a BUYER or SELLER of SHARES, in West Godolphin, Uny, Don Pedro, Summer Hill, Minera, and East Caradon.
*** Buyers or sellers of West Godolphin and Summer Hill shares should address the above for information, &c.

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MR. EDWARD BREWIS, PALMERSTON BUILDINGS,
34, OLD BROAD STREET, LONDON, E.C.,
20 Cashwell; 100 West St. Ives; 25 Chontales; 25 Frontino; 50 Lucy Phillips, £5; 10 Great Rhosesmor, £5; 40 Prosper United; 50 West Kitty; 60 Caldbeck Fells; 10 New Clifford; 10 North Levant.
*** OFFERS REQUIRED for any part of the above, which are to be sold cheap.

TO CAPITALISTS AND PROPRIETORS OF MINERAL PROPERTY.

MESSRS. BEOR AND KENRICK have now on their LIST FOR DISPOSAL COAL AND METALLIFEROUS MINES, at HOME and ABROAD, or ACTIVE PARTNERSHIPS in the same.
Owners of works and mineral leases wanting capital to develope the same are solicited to apply to BEOR and KENRICK, Exchange-buildings, Birmingham.
References given.

TO PROMOTERS OF COMPANIES, &c.—WANTED, a PARTY, or a few CAPITALISTS, to FORM a COMPANY for WORKING a valuable COPPER MINE in ITALY, where shafts are sunk and machinery erected, lodes proved, &c., all most promising. Situation one of the best in the country. On receiving applications, with references, full particulars will be given by BEOR and KENRICK, Mineral Estates Offices, Exchange-buildings, Birmingham.
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SPECIAL BUSINESS in East Caradon, Snaefell, Great Laxey, and Minera shares, for cash, or the fortnightly settlement.
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Sellers please state number and lowest price (all calls paid) to Mr. WILLIAM POTTER, Forest Lodge, Queen's-road, Reading, Berks.

SAFE PROFITABLE INVESTMENTS.
Dividends, 10 to 20 per cent. per annum on outlay.
INVESTORS, SHAREHOLDERS, CAPITALISTS seeking reliable information and safe investments, should read
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Messrs. WARD and JACKMAN will forward a correct list of closing prices and statistical information GRATUITOUSLY on application.
May 29. Bankers: London and Westminster, Lothbury.

MR. R. TREDINNICK,
CONSULTING MINING ENGINEER,
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A GOING CANNEL COAL COLLIERY, near the Sea on the east coast of SCOTLAND, TO BE DISPOSED OF.
Apply, by letter, to "X.," care of Messrs. CLARKE and Co., 14, Lincoln's Inn-fields, W.C.

TO CAPITALISTS, PROMOTERS OF MINING AND OTHER COMPANIES.—PARTICULARS of EITHER of the following named VALUABLE PROPERTIES will be forwarded to PARTIES applying for the same to the undersigned, who has them to DISPOSE OF, viz. :—
THE CAHERGLASAM SILVER MINES, IRELAND.
THE BARON HILL SLATE AND SLAB QUARRY, NORTH WALES.
THE MALLDRAETH BAY COAL AND BRICKFIELD, ANGLESEA.
The latter property, from its advantageous position, having fuel on the spot, with sea and railway communication contiguous, is also admirably adapted for a lead smelting works.
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TO COLLIERY PROPRIETORS.—An experienced Traveller, now resident in Bristol, desires an ENGAGEMENT as AGENT or MANAGER. The Advertiser has represented a colliery, and has a CONNEXION AMONGST LARGE CONSUMERS AND BUYERS OF COAL. The highest testimonials and references can be given.
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There is a considerable first-class shipping business at Whitehaven, and full reliance may be placed on sales to the extent of not less than 100,000 tons a year in the very cream of the Liverpool household trade.
This matter deserves immediate enquiry by Wigan and Whitehaven colliery managers, but no intermediate persons will receive any attention.
No one need apply as regards the Liverpool household trade who cannot furnish a coal to suit the most select connection.
Apply by letter, for one week, to "AA,BB,CC," Post Office, New Brighton, Birkenhead.

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Communications, stating position and condition, to be addressed until Thursday, 4th of June next, to Capt. JAMES EVANS, St. Agnes, Scorrier, Cornwall.
Dated 21st May, 1868.

FOR SALE,—THIRTEEN CARNARVONSHIRE CONSOLS MINING SHARES (£4 fully paid), at par.
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TO BE SOLD,—A FIRST-CLASS NEW 14-horse power PORTABLE STEAM-ENGINE, with all recent improvements. Several GOOD SECOND-HAND PORTABLES TO BE SOLD, CHEAP.
Apply to T. W. BARROWS, Engineer, Banbury.

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MR. JAMES STOCKER,
PALMERSTON BUILDINGS, OLD BROAD STREET, and MINING EXCHANGE, LONDON, E.C., STOCK AND SHAREDEALER in all kinds of Stock Exchange and Mining Securities.
Established Twenty Years.
Money promptly advanced on shares.
Bankers: London and Westminster, Lothbury

Original Correspondence.

IMPROVEMENTS IN MINING MACHINERY.

MINING IN NORTH STAFFORDSHIRE.

SIR,—I was much pleased to witness another steam-engine set to work yesterday on the celebrated Ecton Hill, which up to this stands almost, if not quite, unrivalled for its mineral wealth, as about two and a half millions were extracted within about ¾ mile in length, and less than half that distance in width. The engine was set to work in an admirable style, and reflects great credit on Mr. Mather, who is the chief engineer, and, I believe sole proprietor, of Ecton Mine. This gentleman, since he commenced mining, has introduced several important improvements in dressing machinery, amongst which is his "Patent Washing-up Buddle," of great importance, and must ere long find its way into all mines where there is ore of any kind to dress. The buddle is cylindrical, about 8 feet long and 4 feet diameter; inside the cylinder is a continuous run of sections, 3 inches deep, and about 6 in. apart, in the shape of a screw. The top end can be raised on an angle that is most suitable for cleaning the stuff, at the same time the velocity of the machine can be increased or decreased accordingly. The ore is put in at the lower end of the machine, and is discharged at the top, one stream of water entering with the stuff at the bottom, and another is poured in at the top; therefore, when the stuff comes out of the top it is quite free from all mud, and is as clean as water can possibly make it, which saves one-half of the labour cost in jigging; besides this, ore dressed by this process has realised a much better price than by any other hitherto used, and will effect a clear saving in washing alone of at least 60 per cent. I will further refer to this matter, and other machines which Mr. Mather is bringing out, next week. R. N.

P.S.—Mr. Mather above referred to is of the eminent firm of Mather and Platt, Salford Ironworks, Manchester.

LECTURES AT THE ROYAL SCHOOL OF MINES.

MR. N. ENNOR'S REMARKS ON MR. W. SMYTH'S LECTURES FOR IMPROVING MINING SCIENCE—NO. V.

SIR,—Having given my views on the growth of all things, I will next make a few general remarks on the seed by which all things are propagated. I am not aware of a single thing in creation that grows without a seed, and when that seed is deposited in what may be called its own element it vegetates—it having some unknown power of drawing from the earth the very substance that is required to grow the like thing: millions of its kindred have grown before in the same way. Man must admit that strange things are grown and produced from the earth, where a seed appears to be the forerunner of everything and substance; we see the cause and effect daily taking place, then why mistrust Nature? Man knows these things do grow, then why should he come to the conclusion that rocks and minerals do not? It is ridiculous to suppose there is a single thing in creation that does not grow, particularly metallic substances, for the practical man actually sees them grow daily. I do not know if anyone will be pert enough to ask me where the seeds of metals come from, but my answer would be—the earth's Creator devised means for everything to work under his beautiful law, and by it to grow and produce seed; and I should ask him to show me where *in* an oak tree the first portion of the seed was formed or engendered, so that it ascended up and formed into a flower or berry, wherein the seed was nursed to maturity; or to tell me where in the fowl the first portion of the seed originated that passed into the egg, and afterwards produced another fowl, and to tell me its size at the time it first moved. I believe the origin of all seed is beyond the comprehension of man, but suffice it to know all things originate from seed, and I contend all metallic substances are propagated by seed.

Before I enter on the growth of minerals, I will make a few remarks on the known minuteness of its seed, by showing that copper in watery solution is only seed, so minute that nothing man has yet invented will enable him to detect it, but seed is known to be there; dip a bunch of keys into the solution, and instantly copper visibly appears, and if they be allowed to remain a body of copper collects and grows upon them. It is well known to the practical man that the seed of copper is passing in the water in the mine, even in those where little or no copper has been yet deposited. I may be told that this occurs from water holding copper in solution. Water holds all things in solution, as it is the natural element of the seeds of all metals—in fact, it is their natural conveyance on their highway to find a place of deposit; and if the seed in its onward passage meets magnetic iron, it grows native copper; if it meets with an oxide, it grows an oxide, as an ore; if it meets carbon, it grows a carbonate, as an ore; if it meets sulphur, which is its darling mate, it often grows a mass of sulphate, also as an ore. I will now only attempt to show that copper grows, as that is an ore, which at the present time is open to every practical man's view. I will suppose there is a fine masterly lode, with a fair supply of water passing through it, as is found in any copper district, embedded in a good congenial rock, which may be termed the soil naturally required for its prolific growth. It is also intersected by a second or even a third lode, or one or two or even ten cross lodes, and often by elvans or slides. Through one of these lodes a plentiful supply of copper seed is passing, through one of the other intersecting lodes a quantity of sulphur is passing, through a third iron seed passes (iron is seldom deficient about lodes, slides or cross lodes often check its onward progress). Then, all the elements required are there met, and they unite together to form a mass of yellow sulphuret of copper. Here they unite and settle down until found and dug out by man, or remain to decay from old age, or perhaps—like the plants—to ripen the seed, and then go off in their original element. Then, I will suppose, all the same lodes met, but neither brought in the seed of sulphur. I say in that case it would be impossible for a deposit of yellow sulphuret of copper to form; what would form would depend on circumstances. The cross lodes and water might bring a good supply of oxygen, and one lode might bring in carbon, or the different lodes might bring in each, and copper would combine and deposit with each, as is seen in many mines—the first a quantity of carbonate, and the next an oxide of copper, all formed in the same mine. Copper will unite and form an ore with many things, but I have observed that the ores that are found combined with sulphur are the most paying. *Tin* and *manganese* combine but sparingly with anything but oxides.

I have here given my views openly on the formation of copper. I need not go further, as, if I am right in that, all metals must form under similar laws, gold not excepted; and I am prepared to prove that quartz crystals, spathose iron, and carbonates of lead grow.

Small continuous lodes with trifling intersections are almost certain not to pay for working. They may be seen by thousands, many even seeded to perfection, but the seed makes no progress, only attaining to visible spots of ore. They may be compared to stunted trees in a barren wood, which will never in our day produce a remunerative crop. Frequently they are old lodes, which have little or no gossan; they are like most of the Cardiganshire lodes—the gossan from age has grown into a capel. The great failure in mining men is that they cannot or will not see the error of sticking to the old, useless idea of going deeper. I am very sorry to see this idea is still entertained by men who pretend to be practical. I ask any man to show me where a good deposit of copper is or has been found that had not some visible intersection by something that was congenial to the growth of that deposit of ore. I do not for a moment state that all intersections will produce a good deposit of ore, however promising they may appear, for in some localities there is little or no seed of copper—in others none of *tin* or *lead*, or they did not pass at the same time. It is the same with woods—some are full of all the same kind of plant, whilst at a few miles distance all are of another kind; the same thing occurs in fields with different grasses and weeds. In mining practice, watchfulness and long study are the requirements. I have always found it far easier to discover what would not become a paying lode than what *would* become a paying one.

Before I close this letter I would observe that I have not attempted to drive the paid instructors of English miners; my wish has been to lead them by my numerous questions into giving practical remarks for their instruction. It is the practical department that men of the present day should turn to useful account. I have given my own views as freely as I have asked for theirs. I do not ask them to do impossibilities—to discover perpetual motion, or to produce life in any new animal, for instance—but to turn their attention to the earth's own laws, and daily endeavour to develope and lay open some of them, thus at the same time aiding the working miner and enabling England to hold her long-renowned mining position. I have done my best to aid mining, and having, I think, travelled a greater distance through the different veins of the earth than any man now living, or that has lived, and having been a close observer, consequently, as regards the internal laws of the earth, I think I may speak with some little authority. I have only to ask that my questions may be met with candour, as in my views I am not a bigot, but open to conviction, if sound arguments, backed by proofs, can be produced on any point upon which I have touched. N. ENNOR.

MUNDIC IN CONNECTION WITH COPPER ORES.

SIR,—Mr. Ennor, in one of his present series of letters, repeats the old saying, "Mundic rides a good horse;" but, he adds, "*it must not be arsenical mundic.*" In the same publication of the *Mining Journal* an account is given of the Devon Great Consols annual meeting, and in the directors' report it is stated that they are returning from works erected on the mines 50 tons of arsenic per month from their mundic, and that to keep pace with their raisings these works must be considerably enlarged, and it would seem a much greater return is contemplated. If arsenical mundic does not ride a good horse, how is this fact accounted for?—*May* 26. PICK AND GAD.

THE SHROPSHIRE COAL FIELD—No. VI.

FORMATION AND DENUDATION OF STRATA.

SIR,—In treating of this coal field it has been our object to follow the example set by Nature in its formation, to deal with the strata in the order in which they are composed, before entering upon their denudation. Consistently with this plan, we described in our last the flint coal rock and such of the coal measure flora as its contents represent. The coal which in an ascending order succeeds this rock is called the big flint coal, to distinguish it from the little flint coal lower down; unlike the other coals, it has no under-clay in connection with it—a circumstance which led Mr. Prestwich to suggest that it was the result of the vegetation represented by the numerous fossil trees embedded in the sandstone immediately beneath it. However this may be, it is overlaid by a dark bass, and in the south by black-looking nodules of iron ore, containing impressions of plants, and frequently perforated by worms and burrowing bivalves, the latter of which have left casts of their shells. It is rich in several species of anthrocosia, of which it yields some very perfect specimens. The larger blocks often contain layers of brown vegetable matter, with sharp casts of sigillaria, lepidodendron, and other plants, many of which are bored by parasitic worms. At Dawley, and south of Dawley, the white flat ironstone and white flat clod come in between this stone and the flint coal, and soon becomes an important measure, yielding about 15,000 tons to the acre. Like other clay iron ores it contains a large proportion of carbonic acid, and an analysis gives upwards of 35 per cent. of iron. It is of a brownish grey colour; it is also rich in remains both of plants and shells, and contains five species of anthrocosia, some large plates and other remains of fish, and twenty-five species of plants. In this ironstone, also, have been found some singular specimens of crustaceans.

The blue flat ironstone succeeds the white flat in the northern portion of the field, and is rather richer in its yield of metal than the white flat. It is characterised by similar organic remains. To this succeeds a "thin" bass, called the blue flat bass, in the extreme north, two or more layers of rock and clay, the latter a fine shivery clunch, called quoice-neck, from its bright reflections, resembling those on the neck of the quoice, as the wood-pigeon is called in Shropshire. This is followed by the yard coal, usually less in thickness than its name implies, and which, unlike the ironstones enumerated, is found south as far as Madeley. The yellow stone, containing a lumpy, and somewhat uncertain, measure of ironstone, producing 1200 tons to the acre where well developed, is next added to the list in the northern portion of the field. About 2 ft. of blackish clay, called the double coal poundstone, next introduces us to the double coal, a measure 6 ft. thick at Little Wenlock, Lawley, Snedshill, and at Wombridge, but only 2 ft. 10 in. at Hadley, and missing altogether in many other places. Six feet of fine whitish sandstone at Wombridge, and a little more than one at Lawley, where it is called rock, brings us to a coal variously called half-yard and three-quarters coal, where it occurs on this side of the field. The top coal, one of the best burning and most valuable coals in Shropshire succeeds. Over it is a layer of impure Cannel coal, which forms the roof, but is got to some extent with the coal, and used by the workmen. It is completely coated over with anthrocosia, which lie 3 in. or 4 in. deep, and are a good deal crushed and broken. Almost uniformly may be found between this layer of shells and the coal scales, teeth, bones, and other fish remains. The roof of the mine has an interesting aspect, from the tesselated appearance presented by the shells, and where the Cannel containing them has been gotten stray shells now and then make their appearance overhead in the dark clay, just as they were lodged in the sediment thrown down by the waters in which they lived.

Above the top coal basses the Dunearth ironstone, succeeded by the ballstone, come in, the former in small and the latter in large round nodules. To the south these measures are entirely absent; but in the North, and particularly in the field belonging to the company of which Earl Granville is the head, it becomes an important measure, and is extensively used by the company, together with their blue flats, blackstone, and pennystone, in the production of their cold-blast iron, which bears a high character in the district. A few traces of fish are to be found in the Dunearth ironstone, but we do not remember to have found any in the ballstone. It is equally as rich, however, in the flora of the carboniferous period as the pennystone is in its fauna. It presents us with a rich variety of plants, particularly of ferns, which are remarkable for the crispness and beauty of their impressions, each fibre of the most delicate species being perfect and uninjured. We append a list of the strata in the north of the field occurring between the pennystone and ballstone, the latter included which, added to the one previously given, makes something like 300 ft. from the base of the measures:—

	Ft.	In.
Flint—Fine-grained sandstone, used for building	21	0
Flint coal—Good burning coal	5	0
Flint coal roof—Blackish-grey clay	13	0
Flint coal rock—Fine whitish sandstone, with mica	10	0
White flat—Ironstone in shivery grey clay	4	0
Pitcher basses—Indurated schistose clay	5	0
Flue flat—Brownish ironstone in clay	6	0
Quoice-neck—Greyish-black clay, with shining surfaces	0	9
Yard coal poundstone—Black clay, resembling bass	0	9
Yard coal—Sometimes got	3	0
Yellowstone—Ironstone, in short thick masses, in grey clay	6	0
Double coal poundstone—Greyish-black clay	1	6
Double coal—Much used	6	0
Double coal rock—Very fine whitish sandstone	6	0
Three-quarter coal—Never got	2	0
Slums—Black slippery clay	4	0
Top coal poundstone—Greyish-black slippery clay	1	0
Top coal—One of the best coals in Shropshire	5	0
Top coal bass—Black indurated and schistose clay	0	4
Dunearth—Grey ironstone nodules in clay	6	0
Ballstone—Ditto in grey clay	9	0
Total	115	4

JOHN RANDALL, F.G.S.

WIRE ROPES.

SIR,—The fatal accident through the breakage of a wire-rope at Cannock Chase Colliery a few days ago, and the fact that such occurences are not unfrequent, may be owing either to inferior quality of wire, faultiness of construction, or insufficient care of the ropes. At most of the collieries which I have visited in France and Belgium the ropes are protected from the weather by means of a wooden roof from the engine-house extending beyond the periphery of the pulley over the pit. In some cases a shed, or wooden erection, is built, covering not only the ropes, but also a large area on the pit bank. This shed, boarded to within some 6 ft. of the ground, whitewashed internally, and lighted by a few windows, has a most healthy and cheerful appearance. It will be obvious that such arrangements prevent the weather oxydising the ropes, and in addition affords protection to the workpeople employed on the bank, where the exposure, especially in winter, is often most severe. ELLIS LEVER.

West Gorton Works, Manchester, May 27.

MINERAL RESOURCES OF LA PLATA.

SIR,—I will beg a little space for a few words in answer to Mr. Nolan's letter in last week's Journal, although the matter is now rather out of the province of the *Mining Journal*. In describing the policy of Paraguay as "Japanese," I had in view not only Dr. Francia's administration, or more properly *despotic reign*, but also that of Lopez the elder, and his son the President, as he is called. I maintain that they have all three treated the country as their private estate, and the people as their slaves.

Is there any importing, exporting, mining, metallurgy, or railway traffic carried on except for the benefit of the present ruler? He wishes, of course, to keep the waters of La Plata open below the confluence for his own purposes; if that part had been closed he could not have collected his war materials; above the confluence he claims all right of navigation. "The infamous Florez," as Mr. Nolan calls him, had the support of nearly the whole of the native and foreign populations of the Banda Oriental, and we have yet to learn that the policy of his successor will be different.

The immediate cause of the war was an infringement of the rights of Brazil on the part of Paraguay in a question of boundary, though Lopez, some years back, formed the resolution of showing the rest of the world how great a man he is, and how superior to all paltry questions of international law. Brazil has just thrown open the Amazon, its tributaries, and even her own coast trade, to the ships of all nations. I ask is it likely she would wish to close the waters of La Plata, the free navigation of which would throw open some of her finest territory to the benefits of trade and civilisation? Mr. Nolan questions my authorities; there are two or three reliable books written by Englishmen who have travelled in Paraguay, and they agree in representing the people as a sober, industrious, docile race, fond of their country, and obedient to their ruler, *however bad he may be.*

There has just been issued a British parliamentary paper respecting our countrymen (I presume Mr. Nolan is an Englishman) forcibly detained in Paraguay to assist Lopez in fortifying "*his estates*," though he willingly gave up the widows and children of those who had died in his service. If he is such a pure, self-sacrificing patriot as his friends would have us believe, why does he not resign, or rather abdicate, and allow the liberal Paraguayans, now all in exile, to return to their country, and form a Government?

Mr. Nolan reflects on Capt. Page as a Confederate: granting he was, the confederates advocated a free trade policy and low tariffs; it is the republican and other Northern parties in the United States who uphold protection. It is quite true that the Brazilian Government were at first unwilling to give consent to the United States of America exploring expedition up the southern rivers; we must remember the Water Witch was a vessel of war; when, however, they found that it was undertaken solely in the interest of science and civilisation they withdrew the opposition at first offered to it, while the Paraguayan ruler consented, and afterwards repented that he had given his consent, and revoked it—*a la* the late Theodorus. I am quite willing to let the opinions I hold about South American politics be judged by the course of events, and, in conclusion, willingly join issue with Mr. Nolan in wishing that peace and good government may soon be the means of attracting industry and capital to the State of La Plata, and develope their vast resources to the commerce of the world.

JOSIAH CHILD.

MINERAL WEALTH OF CANADA.

SIR,—Seeing the article in Saturday's Journal, headed "Mining in Canada—Frontenac Lead Mine," I am reminded that when I was stationed at Kingston, in 1830, I paid a visit to the Rossie Lead Mines, opposite Morrisburgh, and reported upon them in one of the periodicals of the country. In this report I suggested the probability of the Rossie vein passing into Canada, and added some observations on its dip, width, and bearing, but as I have no copy of this report at hand I cannot precisely state its contents. I remember, however, seeing glittering masses of galena on the sides of a vein of from 1 to 1½ ft. wide, dipping at a very high angle, almost a vertical one, to the surface of the ground; the two latter facts suggesting either speedy exhaustion or future difficulties in carrying on mining operations. Since the period I have referred to I have neither heard of nor read anything respecting the Rossie Mines, until this morning, when I experienced satisfaction in ascertaining, not only that my conjecture has proved to be correct, but that the vein, as it appears in Canada, is so much enlarged F. H. B.

May 23.

CANADA MINES AND MINERALS.

SIR,—Salt is eagerly sought for at Goderich, and elsewhere on the north shore of Lake Huron, and found. Thirteen shafts are now in process of sinking in, or close to, Goderich Town. Though expensive, the results to the companies which have reached salt is something fabulous. I clip this as the latest item:—

"The Huron salt well has been bored to the depth of 1115 ft., and operations have been suspended, this being the full depth to which it was proposed penetrating; the last 30 ft. was a stratum of solid salt."

The *Peterboro' Review* contains the following about lead. The county and district in which the Review circulates is a westerly continuation of the Hastings gold, silver, iron, copper, and lead region:—

"A fine specimen of lead ore from the Galway Mine was brought to town during the past week, showing the size of the vein for 1½ foot in length, and its increasing thickness as it descends. The lead ore is embedded in sulphate of baryta, in crystalline form, which in itself is a valuable mineral. The company have reason to congratulate themselves on the success of their operations in Galway, which, besides abundance of lead, promise other minerals of value."

It was a search for lead and copper that led the discoverers of gold in Madoc township to the Richardson farm in October, 1866. Here is the latest item about Mr. Richardson:—

"A WISE RICH MAN.—Mr. Richardson, the former owner of the now famous Richardson Mine, considered his rocky farm worth about $400, but he received $73,000 for it, and instead of spending his easily-got cash in riotous living, went to farming the next year, as if nothing extraordinary had occurred. He has purchased some fine farms in the township of Bruce, and there he and his four sons labour."

ALEX. SOMERVILLE,

Hamilton, Ontario, May 14. "The Whistler at the Plough."

RAILWAY FINANCE.

SIR,—The railway interests of this country are happily in a state of favourable transition, and we may hope soon to point to the dis. in the horizon when the executives or financiers of our chief and more important companies become earnestly alive to the advantages of sound and permanent finance, instead of continuing the past and up to the present ruinous system of borrowing money for short and terminable dates. The consolidation of capital accounts, both original and preferential, from shares into stocks has acted well, and thus enables the public to invest their savings, or surplus money, either in small or large amounts, as their requirements may demand. Hitherto the railway debenture debts have never been funded; and this fact alone constitutes the chief evil of railway finance, and probably the Great Eastern would never have been in Chancery had its debenture loans been irredeemable *stock*, instead of redeemable *bonds*. The cost of replacing debentures has given a finishing blow to companies unfortunately too weak before. The Great Western recognises the fact, and has just issued 2,000,000*l.* of perpetual debenture stock; the South-Western last year placed over 300,000*l.*, at 4½ per cent.; and the South-Eastern, 500,000*l.* at 5 per cent. The Great Eastern has obtained powers to issue 3,000,000*l.*; other companies are following in the wake. The Indian railway financiers recognise the expediency of securing irredeemable loans, and it is to be hoped the 4,000,000*l.* South-Eastern terminable debt, falling due over the next four to five years, together with the rather over 100,000,000*l.* British railway debentures now afloat, will as they become due be re-issued as perpetual stock. Thus the costs of contracting new loans will, to a vast extent, become extinct, and the saving to many companies will, in all probability, fully cover the interest paid on the aggregate debts so converted, for there is no end to the charges of lawyers, finance companies, brokers, and officials under the most favourable aspect; whilst in days of commercial pressure and monetary trials they grow into absolute extortion. The change will cost the present holders of terminable debentures something absolutely insignificant, as the

stock would at all times be saleable at par, or otherwise would command a premium. The exception would be in cases of rotten companies, which at present afford redress to the debenture holders only through the Court of Chancery, hence we contend that the public purse will become advantaged as regards existing holders, and the company advantaged to the extent of millions annually in respect to their future well being. We congratulate the public that at last one step is being taken by railway financiers in the right direction, and we hope that the day is not far distant when the system of terminable debentures will be wholly ignored. It is unsound in principle and ruinous in effect, so far as our railways are concerned. It resembles a man keeping himself afloat upon short-dated accommodation bills, instead of obtaining at first a permanent mortgage on his property.

The apathy of shareholders to their own interests is still most remarkable, and it would appear that the Midland Railway Company sanctioned powers to the directors at the special meeting, held on May 14, to raise 5,000,000*l.* additional capital, almost without enquiry or comment, and in several other instances we can refer to the existence of pusilanimity and indifference on the part of proprietors, as disgraceful to themselves as deterring and discouraging to those who enter the lists and advocate reforms.

We will conclude our remarks by inviting the public to examine the questions affecting railway finance for themselves, for it is admitted on all sides that we cannot do without our railways; and if we desire to prosper and to progress in our commerce and industry we must still have more railways, whilst those in progress must unquestionably be completed. Railways must be relieved from their present difficulties—retrenchments must be effected in expenditure, financial abuses must be corrected, legislative restrictions modified, and if necessary higher tariffs must be imposed upon traffic and locomotion. Railways must in future pay a fair rate of interest on the capital employed. In a social view they are indispensable, and they tend to raise the scale of wealth and contentment of the whole population; whilst in a political sense it is equally certain that the whole fabric of our empire is intimately allied with their healthy maintenance and support.

R. TREDINNICK,
Consulting Engineer.

London, May 26.

[Since the above was written, the South-Eastern Railway has adopted the course suggested by our correspondent.]

CHONTALES MINING COMPANY.

SIR,—Will you allow me to draw attention to several passages in Mr. Belt's letter of April 6, the favourable features of which, judging from the recent serious fall in the market price of the shares, cannot have been appreciated by the great body of the shareholders. This may have arisen in a great measure from their inability to see the plans and sections which accompanied Mr. Belt's letter, and which fully elucidated the favourable features to which I refer—the great extent and evident richness of the unworked ground, easily to be reached by the continuation of the adit levels on the course of the lodes. This remark is applicable to all the mines. At Consuelo, Mr. Belt reports that only one-fourth of the length of the lode has been worked upon, such having averaged a produce of 1 oz. per ton. At San Antonio, also, several hundred yards of a lode, worth about 10 dwts. per ton, are untouched. Above all, the Pavon Mine promises to become very valuable. The lode is there 4 to 6 ft. wide, averaging in value right up to the surface ½ oz. of gold per ton, for many hundred yards in length, and which, as Mr. Belt states, could be returned at a cost which would leave a large profit.

The large extent and rich character of the shallow part of the unworked lodes in all the mines is a most encouraging feature in the report, far more so than if we had been told of the *poverty* of the ground above the adits, and the increasing value of the lower levels, to work which would have necessitated the erection of costly pumping apparatus. As it is, Mr. Belt only asks the immediate expenditure of 200*l.* in stamp-heads, and the assurance that, in *case of necessity*, he may have a sum of 20,000*l.* to fall back upon to assist in the exploration and development of the most promising lodes referred to. He hoped, however, as he expressed it in his former letter, to be able to "weather the point," and to return profits, without further capital. That this hope is not unreasonable is rendered evident by the calculation, based upon Mr. Belt's own figures, contained in the directors' letter to the shareholders of May 16, whereby it appears that the 12 heads of stamps which will ere this be at at work should return an actual profit of 1600*l.* per month, likely to be largely increased by the erection of the 24 heads which would be proceeded with on the receipt of the 200*l.* worth of castings Mr. Belt asks for.

Undoubtedly the shareholders have great ground for disappointment at Capt. Paul's injudicious and extravagant management, but Mr. Belt's evident ability, energy, and honesty of purpose should be sufficient to reassure them for the future, and to induce them to strengthen his hands by subscribing for the proposed issue of further capital. Now is the time when each shareholder should follow the example of the St. John del Rey shareholders with regard to their mine, and buy more at the present ridiculously low market price. How much more promising in reality is a mine like Pavon, with its large extent of profitable ground, whole to the surface, workable by means of adit level, than is St. John del Rey, with its only profitable ground covered scores of fathoms deep with water and debris? The Chontales shareholders have it now in their power to defeat the interested attempts of speculators unduly to depress the market price of the shares, of which I hope many will avail themselves. We shall then soon see our undertaking resume its proper position in the market.

May 27. A SHAREHOLDER FROM THE BEGINNING.

ELECTRO-MAGNETISM AS A MOTIVE POWER.—With regard to the production of motive power from electro-magnetism, Mr. CHARLES G. PAGE, of Washington, U.S., remarks that he has long since come to the conclusion that a practical working engine cannot be made on any plan where the circuit is broken. The combustion of metals with a three or four horse power is terribly rapid at all the breaks in the cut-off. The magnetism must be unchanged and the current unbroken to get a working engine, if it can be obtained at all; and the battery must be constant and convenient. The cost per diem is not the real question. Produce a reliable working engine of even half a horse power, and it will be used in many places with great convenience, and in some with profit, even if it should cost 20 times the amount of steam in a Cornish engine. In November, 1851, the *Scientific American* reported a most interesting series of experiments made by Mr. Page, at the Tabernacle, New York. On that occasion Mr. Page succeeded in raising by the axial force of magnetism, with a huge helix and bar of iron, 2000 lbs. weight, 5 in. from the floor. The bar weighed 800 lbs., the platform fastened to the top of it 300 lbs., and the six men on the platform over 1000 lbs. more. The huge mass he caused to vibrate for an inch by his finger. The bar and helix were the kind used in the engine exhibited. The battery used was 50 pairs Groves' with platinum plates 12 in. square, 10 in. immersed. Such an enormous power has never been thus far repeated. Before this he started with an electro-magnetic locomotive to go from Washington to Baltimore. The car weighed 11 tons, containing 14 passengers, two axial engines under the passenger seats, and a Groves' battery of 100 pairs of the above size, swung on rubber springs underneath the car. On the way out the battery gave way, the acids mixed, and this happened twice in a run of six miles, most of which was an ascending grade. On the level they made 19 miles an hour, although the machinery was rude and the friction of the engines and car couplings very great. The engines were rated at four-horse power each. All that can be inferred from the experiment is that the power can be increased on the axial plan to any extent, and that the larger the engines and battery the greater the portion of power obtained. The reverse of this is true in every form of engine which employs electro-magnetic attraction as a source of power. The larger the magnets and engines the greater the loss of power.

HYDROCARBONS—THEIR INFLAMMABILITY AND EXPLOSIVENESS.—The Boston (U.S.) Institute of Technology has appointed a committee to enquire into the subject, and they report that they find the term naphtha to be a general term, and covers both the other terms, gasoline and benzine. The word naphtha is one of great antiquity; it has long been applied to certain springs in Persia, from which is obtained a volatile, limpid, bituminous liquid, having a strong, peculiar odour, and generally a light yellow colour. When the art of distilling coal tar became known the same term was applied to the more volatile products of such distillation; the heavy products being called dead oil and asphaltum. The term was next applied to the most volatile products from the distillation of coal for oil. When petroleum took the place of coal for this purpose, the term naphtha was again used to distinguish the more volatile, so called "light" products from the heavier ones. This is still its use, and in our market all volatile products of petroleum lighter than illuminating oil are designated by the general name of naphtha. Of the naphthas, those of a gravity from 45° to 80° Beaume are often, though improperly, called benzine or benzole. True benzole is a product of coal tar, and differs essentially from any liquid obtained from petroleum. The term "gasoline" is applied to all naphthas having a specific gravity lighter than about 80° Beaume the lightest known being about 90°. Prof. C. M. Warren states that none of these products are simple bodies. All of them are mixtures, in indefinite proportions, of at least twelve hydrocarbons, distinguished from each other by their boiling points, which vary from 32 to 318° Fah., and are nearly as follows:—32, 47, 86, 99, 142, 156, 195, 208, 247, 261, 303, and 318°. The committee also report that there is great danger from the careless use of naphtha—1st, on account of its great inflammability; and 2d, from the liability of forming explosive mixtures of the air and vapours. The liquids are not in themselves explosive, neither are the vapours; but both are highly inflammable. If the liquids escape by any means and form pools, or saturate porous substances, the near approach of flame may cause the vapour to ignite and set fire to the whole exposed suface of the liquid. The vapours, it is true, are not explosive, but they become so when mixed with air in certain proportions, and this committee would particularly call the attention of the society to the fact that such mixtures are more likely to be formed in what are called empty cans, which have contained hydrocarbons, and from their supposed emptiness are imagined by ignorant people to be free from danger. A light may be applied with but little or no danger to a vessel full of gasoline or gasolene vapour, or even such a mixture of vapour and air as would produce lighting gas; but in case the vapour be mixed with a sufficient quantity of air, it would instantly explode.

THE AGE AND RETURNS OF THE FREIBERG MINES.—It has been calculated by Prof. Breithaupt that during the 640 years which they had been worked; dating down to 1825, the mines of Freiberg produced not less than 82,000 cwts. of silver, and that the amount yielded in 1850 alone was not less than 800,000 thalers.

THE SOLAR SYSTEM GEOLOGICALLY CONSIDERED—No. II.

BY THE AUTHOR OF "ELECTRICAL CONDITION."

We are told by the scientific world, both English and foreign, that if the Earth were nearer to the Sun it would be reduced into thin invisible air, and if further removed that the waters would become solid, and that there would be no longer circulation for the sustenance of life; but, on reference to the following table, it will be seen that the astronomer, although advocating the heat doctrine, has given to Mercury a density of 3, that of the Earth being 1, and to both Uranus and Neptune that of 0·18, although evidently, on the theory of heat, the densities of the planets should increase with, and have some relation to, distance from the Sun.

Planets.	Diameter. Miles.	Distance from the Sun in millions of miles.	Days in year.	Hours in day.	Rate of going round the Sun. Miles per day of 24 hours.	Relative rate of going.	Density.
Mercury ..	3,200	37	88	24·54	2,616,000	4·95	3·00
Venus	7,800	66	225	23·21	1,921,440	3·64	0·92
Earth	7,925	95	365	24	1,632,000	3·09	1
Mars	4,100	145	687	24·37	1,320,000	2·50	0
Asteroids*..	—	—	—	—	—	—	—
Jupiter	87,000	493	4,332	9·56	700,000	1·32	0·2
Saturn	79,000	980	10,759	11·29	528,000	1·00	0·14
Uranus	—	1,825	30,687	—	—	—	0·18
Neptune ..	—	2,850	60,127	—	—	—	0·18

* About the size of our moon: various orbits.

Many discrepancies will be found in the density column, the most flagrant being that of Mars having no density at all; but, our present enquiry being geological, we must beg the consideration of the reader to points or facts in the statement, respecting which there can be no question.

M. Pouillet, who should be an authority on such matters, says there is no data on which to determine the rotation of Mercury and Venus; but, be that as it may, there can be no question respecting the length of day in the Earth, Mars, and Jupiter, and although Mars has only half the Earth's diameter his day is actually longer than ours, so that matter on his surface revolves with only half our velocity, whilst Jupiter, with a diameter of ten times that of the Earth, revolves on his axis in ten hours, and, consequently, the centrifrugal force there is twenty-six times greater than with us, and fifty-two times faster than on Mars, and it may be reasonably assumed that Saturn's revolution is not very much less than Jupiter's.

All incandescent bodies, such as a lighted taper, are surrounded by an atmosphere electrical in proportion to the incandescence. The Sun, then, being a highly incandescent body, is surrounded by a highly electrical atmosphere, or space, in which travel the planets, and which space must decrease in electrical condition with distance, so that the orbits of Mercury and Venus are highly positive, whilst those of Neptune and Uranus are correspondingly negative.

Ever since writing our papers of 1859-61 to his Excellency M. Rouland we have been under the impression that the planets, having undergone certain changes, rapidly approached the Sun by distances proportional to those changes; but Sir John Herschel, in his letter to the Royal Society respecting the meteoric shower of November, 1866, avers that the Earth approaches the Sun in a spiral form, and never moves twice in the same orbit, and that it and all the other planets will fall into the Sun in their turn; and, as we presume there are well-founded reasons for that conclusion, we accept it in preference to our own. And we are further told by the geologist that the Earth at one time was in a highly-heated state, and that the first depositions were subjected to great heat and high pressure—a conclusion not strictly in accordance with the notion of there having been deep sea formations, and of their being subsequently broken up by relentless waves. Herschel, the elder, who unquestionably was a great man, surmised that the Earth at one time was a nebula, but whether a nebula or a comet in no way affects our groundwork for reasoning; and as the region of comets may be assumed to be somewhere beyond the orbit of Neptune, or of some more distant planet, and M. Le Vennier, in reference to the comet of June, 1861, said "it has not gone towards the Sun," we may not be considered unreasonable in the conclusion that comets become planets, gradually attain maturity, and become peopled, get used up (as is now being done with the crust of the Earth), and then, after the necessary preparation, fall into the Sun, and again become comets.

Three-fourths of the Earth, we are told, are covered with water, and, including this water, one-half of the crust of the Earth is oxygen, besides which there is the chlorine of salt, the carbon of the animal and vegetable kingdoms, and other matter not peculiar to comets, and which it is presumed have been acquired in the Earth's onward journey; and, as matter is not destructible, when these and the gases of our atmosphere shall no longer be retained by the Earth, they must necessarily be repelled to distant orbits, whether by the Sun's high electrical atmosphere or negative rays matters not. The comet, then, by some law yet to be discovered, having taken the orbit of a planet, gradually enters a medium that admits of the condensation or solidification of the outer or lighter gases; then that of a diffused gasiform vapour (the vapour, in fact, of atmospheric evaporation), when those lighter metals, the bases of lime, clay, and sand, gradually become oxydised; after which it enters an orbit, that of Saturn, in which the metals next in density, sodium, &c., or possessing some peculiar property, such as iron and nickel, are either repelled by the planet, or drawn up by space, and form a ring round the equator, and which ring round Saturn consists of—

Outer bright ring	Miles 10,000
Space between it and dull ring	1,760
Dull ring	17,000
Space between it and planet	20,000

making together a height of no less than 48,000 miles, the thickness of the outer edge of the bright ring being not more than 250 miles. Here, then, in such a negative orbit as that of Saturn are the materials for an immense pressure, that could not fail in producing an indentation or trough in the soft pliable materials of which that planet must be composed, the bottom of which trough must necessarily be in a highly-heated state. Centrifugal force tends to throw all matter towards the equator, and that force in Jupiter is so strong that his polar diameter, compared to his equatorial, is as 100 to 107—a velocity given to him and to Saturn, no doubt, for some purpose.

Now, the first or "Primary strata," gneiss and mica schist, which the geologist assumes to have been formed from disintegrated granite, could be nothing else than the sides or bottom of the trough, which had been moistened only; and this was followed by other matter from the surface of the planet, next to the sides of the trough, composed of either sand, lime, or clay, or compounds of those bases, when there was still only sufficient water to moisten the materials, but which the geologist divides into Cambrian, Silurian, and Devonian stratifications, agreeably to the bones or shells found in them, although in reality but one formation—that of mud. As the several planets approach the Sun in a spiral form, we have necessarily lost the planetary orbits, the permanent orbits being those of the gases from which are formed the atmosphere, ocean, chlorides, and organic matter, and which, as we have observed, are carried from those orbits southward by diffusion, and which gases must necessarily be constantly on the increase as the planet moves to the north. Of the Mountain Limestone, it is said that it greatly exceeds in volume any of the Primary Limestone beds, and shows an enormous addition of power to the causes connected with animal life, by which this substance is supposed to have been produced—the borders of the carbonic acid orbit. At so early a period after incandescence there evidently could be no ocean or seas; there may have been outside the trough, to the north and south, pools or ponds, of some few miles in extent, and their accumulations, when sufficient to be acted on by centrifugal force, were carried to the trough, where the animals were destroyed, not only by the tumbling in, but also by the loss of their natural element, the density of which did not allow of its overcoming the pressure of the ring, and most of these remains are in a shattered state, whilst evidently the passage of these masses of matter over those previously deposited could not otherwise than produce the appearance of "denudation." To what extent these conclusions are borne out by facts we must leave to the determination of the geologist, to whom we more especially address ourselves. Certain it is that, as stated by Mr. Randall, in the Journal of April 18, "Two such series of rocks thus in juxtaposition, but so widely separated by time," &c., and "Here, just above the caverns figured by Murchison in his 'Siluria,' are rocks now in contact, yet so distinct in character, that creation itself, in the interval of their formation, passed through many of its more striking phases," &c.—the different phases being nothing more than decreasing temperature and increasing water, which, in the later periods, possibly allowed the materials to arrange themselves agreeably to their respective affinities, the earth being necessarily positive in proportion to the negative condition of the orbit, and some of which latter formations, in the descent, may have stuck fast to the Silurian, or have filled up hollows left by the first deposition.

In our next we shall treat of the Coal Bed Formation, and, if space should allow, hope to conduct the reader safely through *the period of slush*—the Permian, Trias, Lias, Oolite, Wealden, and base of the Cretaceous, our "secondary class."

TECHNICAL EDUCATION FOR ENGINEERS.

A valuable and suggestive paper upon Engineering Education was read by Mr. G. LAUDER at a recent meeting of the Liverpool Polytechnic Society. He limited engineering education to that knowledge necessary for a young man to acquire that he may become a skilled engineer, and pointed out the importance of a proper elementary education being enforced before a technical education is commenced, deprecating the introduction of the latter into common schools as a course which would strike at the root of all true education; it might raise a wonderful superstructure, while it would cause a life-long regret for the want of a proper foundation. Formerly theory was regarded by engineers as something to be avoided, and sure to lead astray the unfortunate one who turned his attention to it. Now, however, its true place has been assigned and it is fully recognised, although in some instances it may be put somewhat unduly forward, or rather the importance of practical knowledge may be overlooked; he considered the practical part of an engineering education to be the most important.

Mr. Lauder neither advocated a five nor a seven years apprenticeship; or the system that seems to be so popular in the polytechnic schools in some part of the Continent, which endeavours to give workshop experience by making it part of the course of study to work through certain shops, and take notes or sketches of machines or processes; nor another system, which provides a workshop expressly for the students. The latter system may form good toy-makers, but it is not adapted to engineering education. Practical knowledge is only to be gained by taking a practical part in practical work. The special education to be obtained in the workshop consists of the education of the senses in a special direction. Thus, when a youth has learned to chip without hitting his fingers instead of the head of his chisel, his eye and his sense of touch have been so far educated; so, when he has learned to make his work straight and square with the file; again, when he has gained facility in moving heavy masses of material, a higher degree of practical knowledge has been attained, and a phrenologist would say his organs of weight and size have become cultivated. But perhaps the most important practical acquisition is the ability to deal with a number of men, to direct them where direction is necessary, to know what they can be trusted to do themselves, and generally to perceive their idiosyncrasies, whether good or bad. The latter point, however, can scarcely be taught. Mr. Lauder having referred to the importance of the present movement for promoting technical education in this country, and premised that a general education and a workshop education must be the first steps in that direction, proceeded to enumerate the scientific subjects to which a young man destined to become an engineer should direct his attention.

The importance of good elementary training in the pure mathematical sciences was pointed out, as well as the necessity of the higher algebra and differentials; Mr. Lauder observing that while he does not consider that every engineer should become what is termed a mathematician, yet a thorough grounding in mathematics is indispensable. He regards pure mechanism as a connecting link between the geometry of the schoolboy and the mechanics of the man, and as one of those pleasing and graceful sciences that delight while they instruct. He considers the manner in which the mechanical sciences are taught in most of our colleges, and treated in most of our scientific books, renders them useless in the education of the engineer; and says that until Rankine's "Applied Mechanics" was published, in 1858, there was not a book that could be said to be adapted to the requirements of engineers. With respect to thermotics, which is one of the sciences he includes in his list of necessities, he observes that this science is one of late growth, but of very great importance in engineering. He believes it had its foundation in the discovery and determination, by Dr. Joule, of the mechanical equivalent of a unit of heat to be equal to 772 foot pounds of mechanical energy or work. Thermotics, therefore, comprises all the class of problems relating to the conversion of heat into work, and the inverse. It is from this science we have learned that only about 10 per cent. of the total work stored up in the coal which is burnt in a furnace is utilised in our best constructed steam-engines, the remaining 90 per cent. going to waste. What a problem does this open for inventors! The discovery of the latent heat of steam led James Watt to his great improvement of the steam-engine; but where is the inventor who is to apply Joule's discovery to a like useful purpose? Certainly when he appears, if it be the lot of any one man to confer such a boon on his fellow-creatures, his reward should be in no measured terms. This is, perhaps, the most forcible illustration that can be adduced to show the importance of scientific studies to engineers and inventors, and the power of such studies to give clearness and direction to their aspirations. He concluded by referring to the establishment of the Chair of Engineering in Owen's College, Manchester, and to the munificence of Joseph Whitworth in devoting 100,000*l.* to the provision of 30 scholarships of engineering.

In the discussion which followed the reading of the paper, Mr. Arnott observed that it was evident that our skilled labourers were the very basis of success in mechanics. Everyone who had any intercourse with engineers must have noticed what a large number of gentlemen's sons had of late years been placed in engineering establishments, where large premiums were paid for their practical instruction in the profession, and he was invariably told that they were comparatively worthless. He believed it was essential to success that a man should have the desire to advance in the world, and the courage to carry him forward. He said there was no desire in most of those young men, and he was sorry to say it, because they possessed ability. It was, then, the more necessary that skilled and practical working men who desired to raise themselves socially should be encouraged, if not by a paternal Government at least by a paternal system.—Mr. Salt remarked that the class of young men to whom Mr. Arnott referred, and for whose instruction in the engineering profession high premiums were paid, were not sent to become working men, but to learn the business with the view of becoming employers.—Mr. Campbell said that with regard to the class of young gentlemen to whom reference had been made, who were placed in engineering establishments at high premiums, they had, generally speaking, no desire to go into the workshop, and their inefficiency was the natural result, although it must be remembered that amongst such there were young men who had taken advantage of the opportunity to enter the workshop and obtain that practical experience which had made them most competent members of their profession. With respect to the "slinging" of machinery, he thought the mechanical engineers of this country were very deficient. He was particularly struck when at Bombay by the precision with which the better class of the native workmen performed the operation of "slinging" any pieces of machinery: they never failed.—The discussion was then adjourned to the next meeting.

GEOLOGICAL SOCIETY OF LONDON.—May 20: Prof. T. H. Huxley, LL.D., F.R.S., &c., President, in the chair. The following communications were read:—1. "On the Eruption of the Kaimeni of Santorin," by Dr. J. Schmidt: communicated by Sir R. I. Murchison, Bart.—2. "On the Structure of the Crag Beds of Norfolk and Suffolk, with some observations on their Organic Remains.—Part II. The Red Crag of Suffolk," by Joseph Prestwich, F.R.S. On Wednesday the following papers will be read:—1. "On some Carboniferous Corals," by James Thomson: communicated by Dr. P. Martin Duncan, Sec. G.S.—2. "On the Pebble Beds of Middlesex, Essex, and Herts," by S. V. Wood, Jun., F.G.S.—3. "On the Cretaceous Rocks of the Bas Boulonnais," by W. Topley, F.G.S.—4. "Note on the Mendip Anticlinal," by C. H. Weston, F.G.S.

MANCHESTER GEOLOGICAL SOCIETY.—At the monthly meeting of this society, on Tuesday last (Mr. G. C. Greenwell in the chair), Mr. H. Johnson read a paper on "The Green Rock and Basalt of South Staffordshire." He said there was no mining district in the country which afforded richer examples of eruptive basalt and intrusive greenstone. The profusion in which it was found afforded a great treat to the geologist, but was the reverse of gratifying to the capitalist who invested his money in coal mines, and found that he had to penetrate through strata which presented almost insuperable difficulties in working. The basaltic rock was found in immense domes in some of the South Staffordshire hills, and there had been many ingenious theories broached to account for the singular columnar form which the rock exhibited in several quarries. His (Mr. Johnson's) attention had been drawn to several pieces of furnace refuse, which had assumed, under the influence of water thrown upon them whilst cooling, a form precisely similar to that of the basaltic columns.

THE CORNISH BOILER.—The Association for the Prevention of Steam-Boiler Explosions (Manchester), in their monthly report, says:—"Both these explosions occurred in the neighbourhood of the Land's End, where there seems an inveterate prejudice against adopting the simple precaution of strengthening the tubes with rings or other suitable means, in consequence of which fatal explosions constantly occur in the locality, and the single-flued Cornish boiler, though so safe if properly constructed, numbers almost, if not quite, as many explosions as any other. Thus, though persistent malconstruction, its character is seriously damaged. Strange that this should occur in the county that gave this class of boiler birth, and from which it takes its name."

CORNISH PUMPING ENGINES.—The number of pumping-engines reported for April is 22. They have consumed 1493 tons of coal, and lifted 11·4 million tons of water 10 fms. high. The average duty of the whole is, therefore, 51,700,000 lbs., lifted 1 ft. high, by the consumption of 112 lbs. of coal. The following engines have exceeded the average duty:—

Cargoll Mines—Michell's 72 in.	Millions 55·8
Chiverton Moor—70 in.	66·1
Cook's Kitchen—50 in.	53·9
Dolcoath—Harriett's 60 in.	52·8
Great North Downs—Sleggan's 70 in.	57·9
North Roskear—Doctor's 70 in.	62·3
North Wheal Crofty—Trevenson's 80 in.	60·5
Providence Mines—40 in.	52·9
South Wheal Frances—Marriott's 75 in.	57·7
West Wheal Seton—Harvey's 85 in.	69·9
Wheal Seton—Tilly's 70 in.	63·3

LONDON GENERAL OMNIBUS COMPANY.—The traffic receipts for the week ending May 24 amounted to 11,228*l.* 11s. 3d.

Meetings of Public Companies.

ENGLISH BANK OF RIO DE JANEIRO.

The fifth ordinary general meeting of shareholders was held at the bank premises, St. Helen's-place, Bishopsgate-street, on Monday,

Mr. GEORGE T. BROOKING in the chair.

The notice convening the meeting was read. The report of the directors stated the gross profits for the year amount to 84,577*l.*, from which have to be deducted rebate of interest on current bills and drafts, all charges at the head office and branch at Rio de Janeiro for the entire year, and all charges at the Pernambuco branch from the date of the opening on Oct. 2, 1867, leaving 56,740*l.* 17s. 2d. as the apparent nett profit for the year 1867-8. It would have been gratifying to the directors to have been enabled to recommend the appropriation of a large proportion of this sum to the payment of a dividend, but in view of the depreciation that still exists in the currency of Brazil, amounting to the sum of 99,903*l.* 2s. on the capital of the bank employed in that country (estimated at the difference between 27d. the par of exchange at which the assets and liabilities are valued, and 20d. the rate of exchange in Brazil at date of latest advices), the directors have deemed it expedient to place to the credit of "depreciation of capital account" the sum of 54,669*l.* 12s. 6d., leaving 207*l.* 4s. 8d. at the credit of profit and loss account, a sum too small to be divided on the present occasion. In addition to the 54,669*l.* 12s. 6d. above named, the directors have transferred to "depreciation of capital account," subject to confirmation by the meeting, the sum of 45,233*l.* 9s. 6d. the amount of reserve fund, thus making the "depreciation of capital account" 99,903*l.* 2s., as above. It is gratifying to the directors to be able to report that the business of the bank progresses satisfactorily, fully realising their anticipations, and that the assets continue to be of the same high character as before. The directors desire to record the high appreciation they entertain of the services of Mr. John Gallop, who was connected with the bank for several years both in London and Rio de Janeiro, but who retired in December last; and they record with equal satisfaction the zeal and ability of the managers and staff at the head office and branches, desiring especially to bear testimony to the great ability and sound judgment of Mr. E. Ross Duffield, the present manager at Rio de Janeiro.

The CHAIRMAN said he met the shareholders upon the present occasion with great satisfaction, but at the same time with great disappointment—satisfaction arising from the fact that a good and profitable business had been transacted; disappointment because the directors were unable to recommend the declaration of a dividend, on account of the depreciation of the currency in Rio. The subject of the great fluctuations in the currency in Brazil—which was a most important question—had been forced upon the directors on the present occasion. They had called in their solicitor, to whom the accounts were submitted, and he gave it as his opinion that the directors were not justified in dividing any portion of the profits realised during the past year, unless it could be shown that a reserve or credit had been carried to the depreciation of capital account, equivalent to the difference between the par of exchange and the rate at the date of the last advices from Brazil. Looking at their position as directors, and being fortified by the opinion of their solicitor, they felt they were not justified in dividing any of the profits, and, therefore, they were obliged to come before the shareholders and state that, although the bank had done a good and profitable business, they were not permitted by the Companies Act, 1862, nor by their own Articles of Association, to divide unless a clear profit could be shown—in other words, not until after a credit had been carried to the capital account equal to the depreciation brought about by the rate of exchange in Rio. He thought it right to state that the management of the bank, as the report specially certified, had called forth the approval of the directors both in London and in Brazil. Mr. Gallop, the manager in London, had retired most honourably from the bank, having had a more profitable opening offered to him in the City of London. Although the directors much regretted to part with Mr. Gallop, they were the first to congratulate him upon his success. (Hear, hear.)——Mr. WHITE seconded the proposition.

Mr. W. OXLEY enquired whether there was any early prospect of an amelioration of the present state of things in Brazil, or any improvement in this difficulty about the exchange?——The CHAIRMAN said the latest advices from Brazil encouraged them to hope that the war with Paraguay might be soon terminated; but it had been a matter so long pending, and there were so many uncertainties connected with it, that the directors did not feel justified in introducing any paragraph in their report—in fact, it had been such a source of disappointment that they were slow to express an opinion, fearing that circumstances might arise to disturb their present calculations.

Mr. GRASSEY was disappointed at the result arrived at by the directors in not having recommended a dividend, looking at the amount of profit that had been realised. The directors deserved the greatest credit for the manner in which they had conducted the affairs of the bank, but he did not agree with them in the opinion that the difference in the exchange should be brought to bear upon the capital. He concluded by moving an amendment to the effect that a dividend of 12s. per share be declared.——Mr. BUTTERFIELD seconded the amendment.

The CHAIRMAN did not wish to make any remarks disrespectful to any shareholder, but he felt bound to remind the mover and seconder of the amendment that in accordance with the Articles of Association no dividend could be submitted to the meeting unless recommended by the directors.

Mr. GALLOP considered the plan of re-valuing the capital at the fluctuating rates of exchange was at least inconvenient, and might be productive of future embarrassment. He suggested that the opinion of some eminent counsel should be taken upon the construction of the Act as applied to the profits realised by the bank, and also upon the way in which the Act should be applied to such profits.

The CHAIRMAN said the board were most anxious and ready to further the investigation of this matter, and the directors were quite willing to adopt any recommendation that might come from the body of shareholders.

It was eventually agreed that a case should be submitted to counsel for an opinion upon the matter, when the report was received and adopted unanimously.

The retiring directors and auditors were re-elected.

A unanimous vote of thanks was passed to the managers and staff for the satisfactory manner in which they continued to conduct the affairs of the bank.

The proceedings closed with a vote of thanks to the Chairman and directors.

NERBUDDA COAL AND IRON COMPANY.

The ordinary general meeting of shareholders was held at the London Tavern, Bishopsgate-street, yesterday,

Mr. HENRY HAYMEN in the chair.

Mr. HERBERT HEATH (the secretary) read the notice convening the meeting, and the eighth report of the directors and statement of accounts, of which the subjoined are abstracts, were then submitted:—

The accounts for the year ending February 29 showed a credit balance of 3781*l.* 17s. 2½d. The mining expenditure amounted to 2906*l.* 2s. 2½d., and the coal sales to 935*l.* 7s. 9½d. The accounts are audited and certified by Messrs. Waddell and Co., of New Poultry Chambers.

The directors report that Mr. Taylor, the underground miner, having nearly completed his five years engagement with the company, has returned to England, and been replaced by Mr. Baylie, who arrived at the collieries Nov. 9. His report on colliery work shows that further satisfactory progress has been made in opening out coal, and rendering available large quantities when required. The measurements in No. 2 coal top level show that 1700 ft. of ground has been removed, and the measurement of the No. 1 coal gives 486 ft. The total depth of No. 1 shaft is 89 ft. 6 in., the latter portion through very strong granite. In No. 2 shaft the water is down from surface 118 feet. Gins at this shaft and No. 1 are kept going night and day drawing water. The coal was reached here at 140 ft. from surface; it is of very good quality, and is considered to be the No. 3 seam. Very little was extracted, owing to the water making so quickly. In No. 3 shaft they have sunk out of main engine incline from No. 1 coal to No. 2; reached the latter in June, and galleries have been driven right and left in the seam. It is very satisfactory to find that Mr. Baylie designates the coal as of good quality, also that the quantity previously known to exist has been materially increased by striking No. 3 seam in shaft No. 2; this is situated south of the fault, and in all probability the bed will run under the plain on the eastern side of the river.

More important by far, however, is the announcement by the manager, dated Dec. 23, that a seam of coal, which outcrops on the western bank of the river, and beyond the company's boundaries, extends across the river south-eastwards directly into their territory, and that, as opened in the outcrop, it is enormously thick. A boring has been put down a little to the eastward of the boundary line, near the village of Ratheekurar, in order to prove the coal previously to sinking a shaft.

With respect to surface work, good progress has been made during the year. The manager's bungalow, which was built of mud, and could only last a short time, having fallen in, a new one of stone has been erected, the village accommodation extended, new lime-kilns built, and all the bricks and tiles required for masonry in the workings and roofing the houses are made on the spot. The bridge, a portion of which was carried away during the floods of last August, has been repaired and heightened. In the carpenters' and blacksmiths' shops a great deal of work has been done, pick and shovel hafts made, timber work of coal wagons turned out, mining tools of all kinds, wedges, chisels, &c., sharpened and renewed. No. 1 engine, stationed at mouth of main incline, is used, when not required for hauling purposes, in turning the lathes and saws. No. 2 engine has been put together, and will work the 9-in. pumps at No. 1 shaft. The portable engine will replace the gin at No. 2 shaft with 6-in. pumps, recently sent out from England. The original working plant and tools having been in use seven years are nearly exhausted; it has, therefore, been found necessary, on the manager's representation, to replace a great portion of them; consequently in Oct. a quantity of stores, such as iron rails, ironwork for pit wagons, pit shovels, wire-rope, sheet and round iron, boiler plates, &c., were shipped to India, amounting, with freight and carriage to the mines, to about 3000*l.* In December a set of 6-in. pumps, with all the gear complete, were also forwarded; these will now be worked by the portable engine. Although not yet supplying coal, it is absolutely necessary to keep the works in a thoroughly efficient state, and your directors have, while doing so, endeavoured to practice at the same time every possible economy.

As the works on the Great Indian Peninsula Railway are rapidly progressing, it may fairly be expected that ere long the company may be called upon to supply coal in quantities which, unless (as they now are) prepared, they would be unable to do. A clause in the mining license granted by the Government of India to this company provided that "they should produce 5000 tons of marketable iron within five years after the opening of the railway from Bombay to Jubbulpore, or from the Jumna to Jubbulpore, whichever should first happen." At the time this was agreed to no idea was entertained that the East Indian Extension to Jubbulpore would be opened first, inasmuch as that line was not even under contract, whilst the Great Indian Peninsula line was in actual progress; such, however, being the case, the directors placed themselves in communication with Sir Stafford Northcote, and put the manner fully before him, with the view of inducing him to place this company in the position they would have been had the Great Indian Peninsula Railway been completed in the time originally specified. They have now the satisfaction of announcing that the Secretary of State for India, in reply, has acceded to their request, and sanctioned the extension of the time to five years after the completion of the Great Indian Peninsula main line through to Jubbulpore. The directors also think it right to inform the shareholders that they have received a communication from the Secretary of State for India, containing copy of a letter to Government, from the Great Indian Peninsula Railway Company, with a proposition to make the branch line and enter into a contract for coal; in reply thereto they have addressed the Secretary of State, embodying their own views, and as soon as anything definite is received from him they will lay it before the shareholders.

The CHAIRMAN said the secretary would in the first place read some extracts from the general manager's report, which was dated April 20, and was not received until after the report of the directors had been printed.

The SECRETARY read the following extracts:—

No. 2 Shaft.—This work has been successfully carried on, and coal reached at a depth of 140 ft.; on cutting the coal water made so rapidly that it could not be kept down by the ordinary means—*i.e.*, a gin and buckets, work had, consequently, to be suspended, and an indent for pumps sent home. I trust that these will arrive before the rains; I have the portable engine fitted to work them. The finding coal here is a matter for great congratulation, it proving that the coal is merely thrown down by the fault, and that it may be looked for at a greater depth in the plain by No. 2 boring. Work in the mines has gone on satisfactorily, and without accident; full details will be found in the mine captain's report. An important discovery of coal has also been made out towards Rathukmar, in a line due north from the present workings, and a boring has been commenced to the east of No. 7 picket, on the Patkohie-road, distant nearly a mile from this. I am also making arrangements for other borings to trace the seam in; it is impossible to exaggerate the importance of this discovery, extending, as it does, so greatly the area in which coal may be worked.

The CHAIRMAN very much regretted that the board had again to come before the proprietors to state that, however large the quantity of coal, they had up to the present time been unable to find a market for it. The reason did not arise from any fault of this company, but from the delay in the completion of the works of the Great Indian Peninsula Railway. The report had informed the shareholders that since the last meeting they had been getting considerable quantities of coal in excess of those then reported; indeed, the coal had proved to be in much larger quantities than anticipated. As soon as the railway was completed the Nerbudda Company could supply coal at such a price that he was quite confident, whatever might be the result of any further discoveries, they would be able to hold their ground against any company that could be established in the district. He moved that the report be received and adopted.

Mr. WILDE seconded the proposition, stating that it was mentioned at the meeting of the Great Indian Peninsula Railway Company that their line would be opened to Jubbulpore by the working season of 1870. That statement was confirmed by Mr. Campbell, the Commissioner of the provinces of Central India. So that the railway would reach the collieries far within that period.

The report was adopted. Messrs. Lloyd Foster and Wilde were re-elected directors, and the auditors were re-appointed.

A vote of thanks to the Chairman and directors terminated the proceedings.

VANCOUVER COAL MINING AND LAND COMPANY.

The annual general meeting of shareholders was held at the London Tavern, on Thursday,

The Hon. C. W. WENTWORTH FITZWILLIAM, M.P., in the chair

The report of the directors (which appeared in last week's Journal) was taken as read.

The CHAIRMAN said the report spoke for itself, and, therefore, it only remained for him to congratulate the shareholders upon the improved circumstances of the undertaking, and upon the fact that the directors were able to recommend the declaration of a dividend upon the present occasion. This result has been chiefly obtained by reductions in the cost of raising and shipping of coals, and the improved price which had been realised for them at San Francisco. The mortgage debt to the Hudson's Bay Company had been reduced to 6666*l.*, one-half of which would not be payable before September, 1869, and they hoped the position of the enterprise would be such as to enable them to pay off the whole of the debt before that period. It had been seen by the report that the *Fideliter* matter had not been yet settled, but that steps were being taken in that direction. Perhaps the best test of the result of the company's operations was the fact that the board were able to recommend the declaration of a dividend at the rate of 10 per cent. per annum, and to carry forward to the credit of the next account the sum of 2627*l.* 13s. 2d. He moved that the report and balance-sheet be received and adopted.——Mr. YOUNG seconded the proposition. He enquired whether the borings had been attended with any success, and whether any computation had been made as to the quantity of coal that was available at the present time?——Mr. GALSWORTHY stated that the debt due to the Hudson's Bay Company had been paid off by various sums of money which had been received on capital account. The directors had money in hand wherewith to pay the dividend.

Mr. WILD, replying to Mr. Young, said that one boring had been continued to a depth of 40 fathoms, and it was expected that in another 5 fathoms it would be successful. The coal available from the present workings might be computed at 300,000 tons, exclusive of the pillars, the greater portions of which could be saved. The quality of the coal was improving as the depth increased, and if the trade increased the value of the company's land would be considerably enhanced, to an extent beyond its cost price.

Mr. GALSWORTHY added that if the company went on paying dividends it might also be reckoned that the company was adding to its capital by an improved value of the land.

The report of the directors and balance-sheet were received and adopted.

Messrs. Needham and Woodhouse were re-elected directors.

Mr. WILD also having been elected a director, stated that it afforded him much pleasure to find that his anticipations with regard to the success of the enterprise had been realised; and he did not hesitate to say that he did not believe that success would prove ephemeral, but, on the contrary, that it would be progressive in its character.

Messrs. Hill and Lovelock were re-appointed auditors. A dividend was then declared, at the rate of 10 per cent. per annum, free of income tax.

Upon the proposition of Major GORDON, seconded by Mr. MACRAE, a unanimous vote of thanks was passed to the Chairman and directors for the satisfactory manner in which they had conducted the company's affairs.——The CHAIRMAN having appropriately acknowledged the vote, the proceedings terminated.

ROSSA GRANDE GOLD MINING COMPANY.

The third ordinary general meeting of shareholders was held at the London Tavern, Bishopsgate, on Thursday,

Mr. HENRY HAYMEN in the chair.

Mr. JOHN E. DAWSON (the secretary) read the notice convening the meeting.

The report stated that shortly after the last annual meeting the directors, having in view the energetic prosecution of the works, decided upon the appointment of a superintendent, so that the mining captain should be able to devote the whole of his time and energies to the underground operations. Some little delay occurred in effecting this arrangement, owing to the sudden death of Mr. Walter Furst, to whom the post was offered, but eventually the company secured the services of Mr. Ernest Hilcke, who had been engaged for upwards of four years in the Don Pedro Company, under Capt. Thomas Treloar, and who was well recommended as fully qualified to occupy the position. From the reports which have already been issued, the shareholders will have seen that Mr. Hilcke has exhibited considerable energy in the conduct of the affairs of the company, and the directors have little doubt that the mines will now be put into working order without further loss of time. The directors would draw attention to the satisfactory intelligence received by the May English steamer, to the effect that in sinking the air shaft to ventilate the workings on the lode reached in the adit, large bodies of lode, estimated as yielding 7 to 9 ozts. per ton, were encountered 12 fms. above the adit level, the lode in which gave 11 ozts. to the ton. The appearance of the lodes above referred to is considered by Mr. Hilcke so satisfactory as to warrant the erection of another 12 head stamps. The directors have the satisfaction of announcing that they have made arrangements with Capt. Thomas Treloar to act as consulting engineer to the company, who, before leaving Brazil, availed himself of the opportunity of again visiting the property, and has now confirmed the favourable opinion expressed in his first report on the mines.

The CHAIRMAN observed that, from the report which had been circulated and the monthly slips, the shareholders had been enabled to obtain a fair idea of the company's affairs, its prospects, and its present condition. As to the value of the property, he was not an original director, but he was glad to say that Captain Treloar had more than confirmed all that had previously been stated with regard to it. In connection with the management, they had had the report of Mr. Hilcke, and from it they would, no doubt, have come to the conclusion that the property would prove to be second to none in Brazil. When Mr. Hilcke took office the produce was 11 ozts. to the ton. He at once told them that it was necessary to sink a shaft, and that work had forthwith been proceeded with. He was glad to say they had been able to make arrangements for the consulting engineer of Don Pedro to act as consulting engineer of this property also. The appointment of Capt. Thos. Treloar would not at all interfere with Mr. Hilcke; but it would be a satisfaction to all parties for Mr. Treloar to visit the property occasionally, and to possess the absolute power of dismissal of any officers of the company. As to the financial position of the company, it was absolutely necessary to have ample funds to carry on the business of the company, and he (the Chairman) was glad to say that since the date of the balance-sheet they had succeeded in making an arrangement by which the entire unallotted capital of the company would be taken up, and he hoped the effect of this would be to enable them to carry on the business of the company without making any call upon the shareholders. He concluded by moving the reception and adoption of the report.——Mr. NOAKES seconded the proposition, explaining that circumstances obliged him to separate himself from the direction of the company. He remarked that the company was established some two years before it was brought prominently before the public, but had remained in a state of inanition, because the agents found that the titles were not so good as was expected. By perseverance they had now obtained a valid title; and having previously obtained permission to work, they had, by driving an adit level, proved the lode about the time they obtained possession of the property. He quite agreed with the Chairman that the property could not be developed without substantial means, and it was not until the co-operation of the present Chairman was obtained that the necessary capital could be procured. He congratulated the shareholders of the company in having the services of Capt. Thomas Treloar as consulting engineer, as he would have the opportunity of seeing that the property was developed to the extent to which he considered it capable of development. It was found that the ground was highly auriferous, and that the appearances seem to prove the truthfulness of what had previously been stated. He concluded by seconding the adoption of the report, and stating that the circumstances in which he was placed did not permit him to offer himself for re-election as a director.

The CHAIRMAN, in reply to shareholders, stated that the whole of the 27,000 shares had been placed at the price at which they had been refused by the shareholders—1s. per share premium—and he thought that under the circumstances they would not have been justified in demanding a larger price.

A SHAREHOLDER expressed himself perfectly satisfied with the arrangement, observing that it was a question whether the shares should have been so placed or a call of 6s. per share made upon the existing shares——The CHAIRMAN said that a call of 6s. per share would not have sufficed.

The election of directors was then proceeded with, Messrs. Lloyd Foster, Samuel J. Wilde, and J. W. C. Pennell being unanimously elected. Messrs. Cash and Edwards were re-appointed auditors, and the sum of 20 guineas was fixed as their remuneration for the year.

The CHAIRMAM said that the next resolution which he would offer for their consideration was with regard to his late friend, Mr. Hesketh, whom he regretted to say had died very suddenly. He had co-operated with him (the Chairman) from his first connection with public companies, and there had been no one for whom he had entertained greater personal friendship. But it was the great advantage which the services of Mr. Hesketh had secured for the company—for his knowledge and experience of Brazil was invaluable to them—that led him to move a resolution upon his decease. He concluded by moving a resolution that the shareholders learnt with regret of the death of Mr. Hesketh, and desired to express condolence with his wife and family.——The resolution was seconded by Mr. BINGLEY, and carried unanimously.

The usual complimentary vote to the Chairman and directors terminated the proceedings.

SOUTH FOWEY CONSOLS MINING COMPANY.

A general meeting of shareholders was held on the mine, on Monday,

The Rev. Dr. TREFFRY in the chair.

Mr. W. POLKINGHORNE (the purser) read the notice convening the meeting, and the statement of accounts for the five months ending March, showing a debit balance of 568*l.* 8s. 11d., together with the agents' reports, of which the subjoined are abstracts, were submitted:—

The report of Capts. Francis Puckey and Charles Merrett stated that the progress in sinking the engine-shaft had been much retarded by increase of water, caused by heavy winter rains, and subsequently by the cutting of a branch in the shaft. Operations were suspended until the water-wheel (which is of 40 ft. diameter, and provided with necessary pit, leats, &c.) could be got to work. Since April 29 it has been working admirably. The shaft is now down 10½ fms. below the adit level. About 9 fms. below the adit level we intersected a lode or branch, from 6 in. to 1 ft. wide, which will intersect one of the lodes driven on in the adit a few fathoms east of the shaft. This lode or branch is composed of quartz and a little peach, and contains some good strong yellow copper ore, with spots of lead. The lode being spotted with lead is considered a favourable indication in the district. From the numerous promising lodes driven through at the adit cross-cut, they regard the prospects of this mine to be more than an ordinary speculation, and when the different lodes referred to are fully developed at the 30 fm. level they consider that ultimate success will be almost certain, and have every reason to believe that abundance of copper ore will then be laid open.

The report and accounts having been considered were received and adopted. It was explained that, before discussing the amount of the call, the business of the special meeting must be disposed of, as the decision must depend upon whether the number of shares remained at 6000, as at present, or was reduced to 3000, and the meeting was, therefore, made special, "to consider the propriety of fixing the number of shares at 3000, and likewise to adopt means for closing the list of shareholders, with a view of giving the shares a marketable value."

The CHAIRMAN was glad to see so large an attendance, as it gave evidence of the interest felt by the adventurers in the undertaking. Since the last meeting they had had many difficulties, but they had now overcome most of them, and had tided over the worst part of the year—so that it might now be said they had a fair field before them. From the statement of accounts they would see that the principal part of the money had been spent in labour. Much work of a preparatory nature had been done; a watercourse made, an excellent and substantial wall built in the wheel-pit, and a splendid wheel, equal to new, of great power, had been erected; but no doubt most of those present were aware of the nature and extent of the work done generally since they last met. As to the stones of mineral from a branch cut in sinking the shaft, he considered it a good indication of what might be reasonably expected in depth. At the last meeting a resolution was passed that the share list should be closed when the number of 3000 was completed, and the matter was placed in the hands of the directors. They had been in communication with certain members of the Stock Exchange, &c., and a strong desire on their part was expressed to have the share list closed, when they could join them, and use their influence in bringing the mine more prominently into notice. They would agree with him how desirable an object this is to be attained, and they have accordingly arranged that it may now be said the whole of the 3000 shares are taken up, and the list closed. He would again express his confidence in the result of their undertaking. The prospects were of the most encouraging character, and he had no doubt that in a short time the lode would be cut in the shaft. In conclusion, he proposed that, with reference to the nineteenth rule of the company, pursuant to the unanimous resolution of the shareholders at their last general meeting, the fixed number of shares into which the mine be divided be 3000, and that instead of making a call of 7s. per share on the number already subscribed for, the call be 5s. per share on the 3000 shares as rateably apportioned respectively amongst the shareholders, and that the said call be paid forthwith to the purser, or to Messrs. Williams, Treffry, West, and Co., South Cornwall Bank, St. Austell, for the credit of the mine.

Mr. B. C. GIDLEY said he had very great pleasure in seconding the resolution proposed by Dr. Treffry. He had been over the ground that day, and from what he had seen, and judging from the parallel case of Fowey Consols, adjoining, which it is well known has been a very good and profitable mine, he considered that they had a splendid property, only waiting to be developed to prove productive. Although the mine might never equal the Devon Great Consols in extent and riches, yet there is a very great probability of its becoming remunerative to the shareholders. He agreed with the Chairman that it was very desirable the share list should be completed and closed, in order to give respectability to their enterprise, and to place the company in a position to go on the market with their shares should they wish it, and the plan proposed would accomplish that object. He had no doubt that everything done in this company would be done in a straightforward and honourable manner, and that they might feel perfectly safe in entrusting the management of the company's affairs in the hands of those appointed by them.

Mr. W. WEST did not think they need be in any hurry to get the remaining shares taken up, as they might remain as they are, unappropriated, until they cut the lode in the shaft, as it would be a pity to sacrifice that which he felt certain will turn out of great value by waiting a short time for the mine to be opened.

The resolution was then put to the meeting, and carried unanimously.

The Rev. J. D. HAWKSLEY was sure that everyone present must feel obliged to the gentlemen who have conducted the affairs of the company so well. For his own part, besides the prospect of their having individually the advantages of being connected with a profitable mine, he considered the employment which it gave was a great boon to the working classes, who stood greatly in need of it in this neighbourhood—so that the benefit would be, he hoped, of a twofold character. With respect to the appropriation of the remaining shares, he thought that the course resolved on was the best, and had much pleasure in proposing a vote of thanks to the Chairman and directors for the manner in which they have conducted the business.——The meeting then separated.

TREWETHA MINING COMPANY.

In these dull times, when we look round and see so many mines abandoned, and many more worked with so little vigour as to leave but small chances of making any new or important discoveries, it is very cheering to find that some mining companies are determined to prosecute their works with energy, and that where more powerful machinery is wanted it has been erected. A very striking instance of this was illustrated on Saturday last at Trewetha, where a powerful pumping-engine of 80-in. cylinder was started to work in the presence of Messrs. Harris, Rawlins, and Ward (of Crosby-house, London, who came down specially to witness the operation), and a large concourse of people from this and the neighbouring mines. The engine has been erected by Messrs. West and Sons, of Par, and does them great credit, going off spendidly. After having worked for some time, the miners were called together, and after some appropriate remarks had been made by Captain Foot, the manager of the mines, and Mr. West, hearty cheers were given for the gentlemen who had honoured them with their presence, and who had most liberally supplied them with the means of providing a good and substantial dinner. The engine was christened the "Margaret Harris," which was received with great applause. The company then adjourned to the accounting-house, where the good old English fare of roast beef and plum pudding awaited them. Mr. Harris presided, with Mr. West as the vice-chair, supported by Messrs. T. Nicholls, Tavistock; J. Seccombe, Liskeard; T. Pryor, Redruth; T. H. Geak, St. Germans; R. Clogg, Liskeard; G. F. Rowe, Trewetha; Johns, Trelawny; Rickard and Vosper, Callington; and many other gentlemen.

After the cloth was removed, the CHAIRMAN gave the usual loyal and patriotic toasts with great taste, which were received with the hearty cheers for which the people of Cornwall are so well known.

Mr. WEST then gave "Success to Trewetha Mine," coupling with it the names of the Chairman and Mr. Rawlins. He spoke at considerable length on the richness of the ores in the neighbouring mines, and on the prospects of Trewetha, which he had known for upwards of 20 years. From what he knew of the district he was quite justified in saying that (if the mine were worked in a spirited manner, as it now seemed likely to be) he had no doubt whatever of its being found to be a valuable and highly remunerative property. He had every confidence in their excellent manager, Capt. Foot, and in the mode of working proposed by him, and believed the company would be well repaid for their outlay.

Mr. HARRIS, on rising, was received with loud and long-continued cheers. He said, on his own part, and that of his co-directors, he thanked them for the very handsome manner in which they had been received on their visit to the mine, and assured them he was delighted to be present on the occasion. It was quite true, as Mr. West had told them, they had laid out a very large sum of money on the property, and he was more than ever convinced from what he had seen and heard that day the mine would ultimately turn up a prize.

Mr. WEST then gave, in very complimentary terms, the health of their worthy secretary, and assured the company that nothing he could say would raise him in the estimation of those who knew him. It was said a good mine made a good secretary, but he would also say that in some cases poor mines made good secretaries, and from his knowledge of Mr. Ward, and from what he had heard from others who had known him still longer, he would say that he did not think a more energetic and competent man could be found to conduct the affairs of the mine in London.

Mr. WARD was loudly cheered, and, after acknowledging the kind manner in which they had received him, said the present occasion was one which was extremely gratifying to him, as he had for a considerable time seen the necessity of having a larger engine, so as to more thoroughly develope their extensive property. They would now be able to work the mine in such an efficient manner as he fully believed would ere long thoroughly fulfil their most sanguine expectations. It was true a good mine made a good secretary, but if ever a company deserved success he thought the present one did, for whenever money was

wanted it was only for him to bring the matter before them and they were always most cheerful in responding.

The healths of Capt. Foot and the purser, Mr. Horswell, were proposed from the chair in very eulogistic terms.

Captain FOOT, in replying, gave a very interesting account of the mine, and assured the company there should be nothing wanting on his part to carry out the operations effectively and to a successful issue, for he believed he should soon be in a position to congratulate the shareholders on the success they so richly deserved.——Mr. HORSWELL also briefly responded.

Captain JOHNS, the manager of the adjoining mine, Wheal Trelawny, in responding to his health, congratulated the shareholders on the successful starting of their new engine, and fully believed that as they were now in a position to thoroughly prosecute those points which presented such great chances of discoveries, they would no doubt meet with the success they so well merited.

Mr. CLOGG, of Liskeard, favoured the meeting with many interesting facts in nnection with lead mining, and instancing the success at West Chiverton (of hich he is purser), and from his knowledge of Trewetha he saw no reason why they should not ere long be in as good a position as some of their neighbours.

Several other toasts followed, which were ably responded to, and the meeting separated, after having spent a most pleasant day.

FOREIGN MINING AND METALLURGY.

French metallurgical industry is still represented to be in a state of considerable depression, orders still making default at the works, and prices remaining much depreciated. In the Haute Marne the situation has become still more difficult, and it is feared it will be necessary to extinguish several furnaces. In the Meurthe and the Moselle good grey pig for re-casting finds an easy outlet, but prices do not improve. The Pontgibaud Mines Company will pay, June 5, a dividend of 12s. per share on account, in respect of the exercise terminating June 30, 1868. Meetings are announced as follows:—Condemine Coal Mines (Allier) Company, June 2, at Paris; Messageries Impériales (Maritime Services), May 30, at Paris.

The Belgian works are believed to have secured a new order on Russian account, but they can afford to wait, as they are pretty well provided with work for some time to come. The current of orders for merchants' iron and plates continues tolerably active. The Belgian coal trade has been, upon the whole, in a feeble state; nevertheless the approach of the period when navigations will be closed has stimulated buyers, and the demand has been a little more active, especially in the Charleroi basin. There is some enquiry for coke, a state of things which is considered to indicate an improvement in the state of siderurgical industry. Industrial coal has made at Liége 9s. to 9s. 3d. per ton, while coal for domestic consumption has realised 10s. 5d. to 11s. 3d. per ton. Freights have not varied, but no certain reliance can now be placed upon navigations until August or September. A meeting of the creditors of the Belgian Railway Plant Company has been held at Brussels, at which the "curators" read a report on the operations in connection with the bankruptcy of the company, and on the probable results of the liquidation. The "curators" do not hesitate to attribute the fall of the company to certain works in which it imprudently engaged at Antwerp. Certain legal proceedings are pending, including an action against the Belgian Government. It is proposed to test the responsibility of the directors. The mortgage debts of the company amount to about 394,000*l.*, while the nett available assets of the company are estimated at 163,015*l.* A meeting for discussing this report is fixed for June 13. The Haine St. Pierre Forges, Ironworks, and Foundries Company will hold a meeting, June 13, at Brussels.

Prussian metallurgists are beginning to complain of increasing stagnation in affairs, the rolling mills producing rails and merchants' iron being in want of work, while, on the other hand, some foreign countries produce pig at a cheaper rate than the Prussian blast-furnaces. Thus, an Essen letter says:—"The high wages of the working classes, as well as the high transport expenses demanded by the railway administrations, increase the price of raw materials, and render Prussian ironmasters unable to produce iron at so low a rate as Belgium and England. All the petitions for warded to the railway administrations, in order to obtain a reduction of transport charges, have remained without result, although there is a general opinion that reductions of tariffs would involve no injury to the railway companies. A declaration of various railway administrations, that the reduction of transport expenses applied for would be injurious to the interests of the shareholders, and would even involve in some doubt the future existence of railway companies, seems to banish for some years all hopes of tariff abatements." The production of coal and iron in Prussian mines in 1863, 1864, and 1866 is returned as follows:—

Year.	Minerals.	Coal.
1863	Tons 1,370,502	Tons 14,304,575
1864	1,432,917	16,547,744
1866	1,561,700	18,679,813

The Prussian blast-furnaces produced 705,966 tons of iron in 1864, of an estimated value of 3,040,000*l.* In 1865 the production of rough iron was 771,902 tons, of an estimated value of 3,400,000*l.*; and in 1866 the production increased to 803,552 tons, but the value remained stationary at about 3,400,000*l.* To pass on to the present month it may be remarked that a slight fall has taken place in the price of pig at Essen. Grey pig No. 1 is quoted at 3*l.* 14s. 2d. to 3*l.* 16s. 8d. per ton; No. 2 ditto at 3*l.* 9s. 6d. to 3*l.* 12s. per ton; and pig for puddling purposes at 3*l.* 5s. 6d. to 3*l.* 12s. per ton, payable in three months, or at once with a discount of 2 per cent. The number of blast-furnaces now in activity in the Rhenish provinces and in Westphalia is returned at 152, and in the other provinces of Prussia 108 furnaces are in activity.

A South Italian Mines Company has been constituted at Naples, with an issue of about 2000 shares. The object of the company is the working of the mines of Giffoni, Valle Piana, and Giffoni dei Casali, in the province of Salerno. The Swedish Legislature has sanctioned a loan of upwards of 2,000,000*l.* for the construction of additional Swedish railways. The Russian Government also continues to launch into extensive new railway enterprises; thus concessions have just been granted of lines from Koursk to Charkow, and from Charkow to Taganrog and Rostow. The profits realised by the Silesian Zinc Mines and Foundries Company in 1867 amounted to 49,686*l.*, admitting of the distribution to the holders of the preference shares of a dividend of 4¾ per cent., or 14s. 3d. per share. The payment of the first half of this dividend was commenced May 15, and the payment of the second half will take place Nov. 15.

At Paris and Havre business in copper has been rather more quiet; but, nevertheless, prices have been maintained at Paris with tolerable firmness. At Paris tough English has been quoted at 83*l.*; Chilian in bars, 79*l.*; ditto in ingots, 81*l.*; and Corocoro mineral, 80*l.* per ton. At Havre disposable—or nearly disposable, in consequence of the short terms prescribed for delivery—has been dealt in at 78*l.* 8s. to 78*l.* 10s. per ton; 35 tons to be delivered at the close of July have also changed hands at 80*l.*; and one lot of 7½ tons refined has found a purchaser at 81*l.* 4s. per ton. At Marseilles prices have remained firm, and without change. The German markets present no notable change in the tone of the article, which finds an easy and regular outlet, to meet the requirements of consumption, at former prices. There is not much change to notice in the state of the lead markets; some revival of enterprise is noticed nevertheless, especially in Germany, where prices, without having materially varied, have acquired more firmness. At Rotterdam also Stolberg is held better, at 11¾ fls. On the French lead markets prices display no variation. The Dutch tin markets have continued feeble, but, nevertheless, there has been no further fall in prices. Banca, after having retrograded from 55½ fls. to 55¼ fls., has closed more firmly at 55½ fls., while Billiton has made 54¼ fls.; about 4020 piculs of tin from this latter source were sold publicly at Batavia at the commencement of April at the average rate of 56·07 fls. The article has remained quiet on the various French markets; on the principal German markets prices have displayed considérable firmness. The demand for zinc on the Hamburg market has been animated during the last few days. At Breslau the tendency of business has been also towards improvement. On the Paris market some lots of zinc having been rather rapidly taken off; quotations have presented a slight advance, and have closed firmly at 21*l.* 4s. per ton for rough Silesian, while zinc from other sources has made 20*l.* 18s. to 21*l.* per ton.

MINING IN NEVADA, U.S.

[*From our Correspondent.*]

The official statement of the transactions of the Twin River Mining Company for the year 1867 has been lately published. It shows that during the year the mine has produced 3847 tons of ore, the average yield of which was $111, producing $427,227 in silver bullion. The vein from which this ore was taken is situated about 30 miles south of Austin, and is owned by a New York company. The vein is, on an average, about 10 feet thick, but the the pay streak is but little over 3 feet. This is considered one of the leading mines of Eastern Nevada, but its productiveness is eclipsed by that of the Manhattan Company, at Austin, which is also a New York Company, whose operations were principally confined to the development of the North Star Mine, which is one of the first locations on Lander Hill. At the beginning of the year 1867 this mine showed no ore of a quality good enough to warrant the cost of extraction and milling, and the superintendent of the mines of the company, Mr. John Frost, was compelled to undertake an extensive exploration of the mine in search of paying ore. A perpendicular shaft was sunk and timbered to the depth of 138 feet; drifts were cut to the extent of 1404 ft., and securely timbered; and stopes and shoots were opened to the extent of thousands of feet. The number of tons taken out of the mine, and reduced at the mill of the company during the year (1867) amounted to 2311, which yielded bullion of the value of $438,905. The total cost of all the work specified above, including the extraction of the ore, and the production of the bullion, amounted to $192,081, which left the splendid profit of $246,823. The operations of this company were even more extensive and profitable than the foregoing statement shows. Besides reducing the ores extracted from the North Star Mine, the company purchased ores from other mines, and crushed ores from customers, until the aggregate product of bullion reduced at this mill during the year reached nearly the sum of $600,000. The intelligent management of the company is steadily enlarging the area of production. A great working shaft, known as the Oregon Shaft, has been undertaken, and sunk to the depth of several hundred feet, in which the vein of the Oregon will be cut at the depth of 350 feet, and the vein of the North Star at the depth of 550 feet. When these veins are reached in the working shaft, and developed through levels, the production of ore will be greatly increased, and the yield of bullion from the works of the company will exceed $1,000,000 annually. Narrow veins of highly concentrated ore, similar to those of the North Star, Oregon, Florida, Troy, and scores of others on Lander Hill, although they may never admit of development at all equal to the magnitude of the works on the Great Comstock, may be made to yield a greater profit in proportion to the expense, and this is a consideration precisely what capital, large or small, desires. The Troy Mine, one of the smallest veins of Lander Hill, is just now producing some of the most valuable ore yet developed in the district. A lot of 13 tons of its ore, which was lately reduced at the Manhattan mill, yielded at the rate of $598 of silver per ton, since which they have gone deeper into the pocket, and turned out still richer masses of beautiful ore. Many of the large specimens are covered with thick layers of native silver, and their sides and every fracture and crevice disclose the silver in wire and threads. It is estimated that the ore which has been taken out of this mine for several days past will far exceed the yield of the lot enumerated above, as extraordinary as that was. The product of the Florida Mine, on the same hill, for the month of March, was scarcely less satisfactory. During that month this mine produced 151 tons of sulphuret ore, which was extracted from the lower works, which are 450 ft. below the surface, by the incline. The amount of 121 tons was reduced at the Keystone mill, and the balance (30 tons) was worked by the Manhattan mill. The highest assay of the lot worked at the Keystone was $479, and the lowest $384, which gave an average of $427 per ton. The average assay of the pulp of the lot worked at the Manhattan mill was $415 per ton. The average yield of the lot of 151 tons, as shown by the assays of the pulp, was $421 of silver per ton. This is a big but a true story of a little vein, which may be read with profit by the owners of big veins everywhere. A small lot of ore from the Hot Creek district has been lately sent into Austin to be worked, as a test of a new discovery. The lot consists of 2700 lbs. of ore, obtained from the surface of the Gillett and Clark ledge, which was recently discovered near Rattlesnake canyon, in that district. The vein is represented to be from 5 to 7 feet thick, with a great apparent uniformity in the character of the ore. The assay of the pulp yielded at the rate of $203 of silver per ton.

The El Dorado south, at Belmont, is now yielding better ore than at any previous period. A lot, weighing 4000 lbs., worked a few days since, gave a mill assay of $557 per ton. This was surface ore, obtained from a new chimney, found some 300 feet south of the main incline. It is the intention of the owners to have 100 tons worked within a few weeks at the Combination mill: 9 tons of ore from the St. Louis Mine, in the Cortez district, lately hauled to Austin, a distance of 70 miles, gave a pulp assay of $571. Mr. Wenban, who has been engaged during the past winter in opening the St. Louis, states that the lode varies from 2 to 5 ft. in width, and the quartz is so friable as to be easily worked out by pick and gad. The mines of Cortez are, undoubtedly, of great value, and if once a good company get into full operation in the district, it will yield a large and steady stream of bullion. With the developments recently made in Newark, Pahranagat, and Cortez districts, the old, unreasoning prejudice against a limestone formation for silver mines has been pretty effectually disposed of.

STEEL FROM CAST-IRON BY THE BESSEMER PROCESS.

An interesting paper on the Manufacture of Steel from Cast-Iron by the Bessemer Process was read by Mr. ALFRED BOWATER at a recent meeting of the Liverpool Polytechnic Society. He observed that as at every establishment where steel is manufactured by this process some slight peculiarity exists, he would describe the mode in which the process is carried on at the Mersey Steel and Iron Company's Works. The machinery and apparatus designed by Mr. Bessemer are much the same, except as to size, in every case; no alterations or improvements of any importance have been effected, and it may be said that no improvement of modern times of equal magnitude has ever been so efficiently and carefully supplied in all its details with machinery so well adapted to the work required. At the Mersey Works the air-furnace was found objectionable for melting the pig-iron, because of the sulphur contained in the large quantity of coal required to melt the iron. Besides, the cost of keeping the air-furnace in repair was very considerable indeed. Siemen's regenerative gas-furnace was tried, but did not fulfil anticipations. The use of the ordinary cupola for this purpose had often suggested itself, but it was said that Mr. Bessemer had tried it in his early experiments, and relinquished it in favour of the air-furnace. Mr. Birch, of the Railway Steel and Plant Works, Manchester, had, however, been already successful in his experiments with cupola-melted iron for Bessemer steel; and there appearing no reasonable grounds why this should not be found in every way fully equal, if not superior, to iron melted in the air-furnace, two large cupolas were erected at the Mersey Steel and Iron Company's Works, which have been found to work in every particular very satisfactorily—a saving of 10s. per ton had been effected by its use, and it was an improvement in every way.

It has often been remarked that as using the hematite ores which are met with in this country make pig-iron suitable for Bessemer steel, there will soon be a difficulty in procuring irons of the right quality in large quantities. This may be treated as a mere trade report. At the present time it may be safely asserted that not only is the quantity of Bessemer pig-iron in excess of the demand, but the quality is uniform and reliable. In the manufacture of malleable iron, the admixture of different brands is found best, and the same rule undoubtedly will apply to the manufacture of Bessemer steel; and should a scarcity of pig-iron made entirely from hematite ores arise, Mr. Bowater has no doubt that by a careful selection of other ores to mix with them, suitable pig-iron could be readily produced. The presence of silicon in excess is the source of the greatest waste or loss in the yield of steel, and continued efforts are being made to redeem the irons from this impurity. Still it is remarkable that more care is not bestowed upon the casting bed to prevent so much sand adhering to the surface of the pigs.

In carrying out the process at the Mersey Works, 5 tons of iron are placed in the cupola with the best hard coke, ready for melting, which occupies 1½ to 1¾ hours, instead of 3 to 4 hours in the air-furnace; by increasing the pressure to about ½ lb. on the square inch the iron can be melted in less time, but no advantage is gained, as the iron is usually ready as soon as the mould, &c., are prepared to receive it. To tap the cupola, and allow the molten iron to run into the converter, which is turned half-way down to receive it, is the work of a few minutes only. The full pressure of air from a 250-horse power engine is then opened into the bottom of the converter, and the converter turned upright at one and the same time. During the next quarter of an hour, which is about the usual time it takes to complete the blowing, the operation must be witnessed in order to get a clear conception of its appearance. For the first six or seven minutes a very dull flame of yellowish red with brown streaks of light issues from the converter, giving off from every line a brilliant scintillation. The continued blowing rapidly increases the temperature of the fluid metal until a resplendent sheet of white flame proceeding from the ignited carbon gradually illuminates all around, casting a shadow from every object near even in the face of the noonday sun. As the process draws near completion the flame drops, loses its intense brilliancy, and the converter is turned down to receive the charge of spiegeleisen which is quickly introduced, and the conversion is completed. The ladle on its crane is then brought forward to receive the now converted steel. In pouring the steel from the converter to the ladle, the amount of slag which accompanies it is often remarkable. Much of this slag consists of the wearing down of the lining and tuyeres at the bottom of the converter, and which have to be renewed at least every two days. Sometimes the ladle, after the steel has been poured into it, is covered with a cap of light slag, through which small jets of carbonic oxide gas become ignited. At other times the slag is dry and sinks to the bottom of the converter and ladle. As the molten steel is then exposed to the atmosphere, the temperature is lowered, and it commences to set, forming a shell of steel inside the ladle. In this case it is usual to protect it from the atmosphere by throwing a small quantity of dry sawdust over the surface of the metal. The steel is next run from the ladle through a perforated plug of fire-clay, ingeniously arranged in the bottom, into moulds of cast-iron of suitable sizes, so as to give such weights as may be required for rails, tyres, or forgings of different kinds. Great waste takes place in filling the moulds as well as in decarbonising in the converter, and unless the utmost care on the part of the workmen is fully exacted, the loss through the ladle becoming stopped up, or the opposite, which is nearly as bad (the valve not acting, owing to its being badly fixed or burnt off), the steel commences to run in full force and cannot be checked, causing a waste of metal in passing from one mould to the next, while the moulds cannot be more than three parts filled, owing to the violent agitation produced by the rapid flow of the metal. Ingots are then made of unsuitable sizes, which remain on the hands of the manufacturer, causing heavy loss, seeing that a royalty of 2*l.* per ton has to be paid upon them.

The next stage of the process is to remove the ingots to the heating furnaces, heat them, and reduce them under powerful steam-hammers to the sizes wanted, thereby closing the pores of the steel, which in the ingot is often found honeycombed. In ordering steel rails it is often specified that ingots shall be cast not under 10 or 12 in. square, to be hammered down to blooms not over 7 in. square. This is done in order to ensure soundness and solidity to the bloom before the rolling is commenced. In rolling Bessemer steel there is nothing remarkably different from that of rolling iron, except that much stronger machinery is required, seeing that steel is harder in quality and worked at a much lower temperature. Considerable difficulty is found in sawing the rail when hot to the exact length required by engineers. Truran states that from one forty-eighth to one fiftieth of the length should be allowed for shrinking, but this is found to be much too little. Persons who have given this matter but little consideration will be surprised to learn that the contraction allowed on a steel rail 21 ft. long, say of 70 lbs. per yard, amounts to 3⅛ in., and upon an iron rail of the same size and section, but finished at a higher temperature, the allowance would be not less than 3 13-16th inches. The difference between two bars cut to the same length and of sectional area equal to 1⅛ in. was not quite so much. The tests which have hitherto been applied to steel rails consist in dropping a weight from a fixed height upon the head of the rail, which is placed upon bearings 3 ft. apart. There is no doubt about this being a severe and proper test; still, if carried out to a large extent, it would become very expensive. A very easy method of ascertaining sufficiently near for all practical purposes would be to take pieces of rail ends and punch holes at about one sixteenth of an inch apart. If the rails withstand this without fracturing between the holes they invariably stand every other test. He further observed that great attention was necessary to the "tuyeres" and to the bottom of the converter, which required to be frequently renewed. The appearance of the flame must be carefully watched, as it was by its indications that the end of the process was determined. The usual hematite metals in this country gave a clear indication; but he believed that in some pig-irons used in Germany, in which there was a great deal of manganese, a smoky termination to the "blow" was produced, which rendered it rather difficult to discover the colour of the flame. Taking the whole process, not less than from 15 to 17½ per cent. of waste would occur in the melting, "blowing," and pouring the metal into the different moulds; and this was not taking into account the waste which afterwards took place in the hammering, rolling, and sawing into lengths, or in forging the metal into whatever shape was required. From his own experience he might say that, with regard to uniformity in quality, he would as readily make Bessemer steel as wrought iron. He considered that samples of bridge or ship plates of Bessemer steel should give a bending test, when cold, of 90°; the rail ends might be easily tested by the closeness with which holes may be punched, and if they endured that he generally found they would endure almost every other test. With respect to steel *versus* iron rails, he remarked that, a short time since, he was informed by a gentleman connected with the Lancashire and Yorkshire Railway, who, in the year 1859, were supplied with a quantity of puddled steel rails from the Mersey Steel and Iron Works, that they were the best rails they had ever laid down; and he did not think any puddled steel could be made so uniform in quality as the steel manufactured by the Bessemer process.

In the course of an animated discussion which followed the reading of the paper, in which the president, Mr. J. T. King, Mr. Salt, Lieut-Col. Clay, Mr. Boult and others took part, Mr. Hargreaves observed that the separation of pyrites from coal was a matter of very great importance, especially in the manufacture of coke for the Bessemer process. Having explained the usual method employed for removing the sulphur, he suggested the use of chloride of manganese for the same purpose. This solution being made of a proper strength, allows the pyrites to sink to the bottom, while the pure coal floats upon the top, whence it may be skimmed off; a little milk of lime being added to it, it is coked. The oxide of manganese is reduced to the metallic state, and improves the quality of the iron in the converter. A source of loss to the manufacturer was also the presence of silicon in the iron, and the silicic acid adhering to the "pigs;" and he suggested that, with a view of meeting this difficulty, the pig-iron might be run into moulds formed of granulated iron ore. Great attention was now being paid in the Cleveland district to the subject of manufacturing steel from the ores obtained there. Mr. Bowater, in reply to several questions, said the proper time to cease working the converter depended upon the judgment of the person in charge of the "blowing." The tuyeres were from 18 to 19 inches in length, and about 6 in. in diameter. The linings at the bottom of the converter and tuyeres were gradually reduced until they came down to a thickness of about 6 in., when it would be very unsafe to proceed any further, and they would be renewed. As to the fibrous appearances of steel he could not say anything, for, without the use of the microscope, he never could discover any, nor could he give any information respecting the "pitting" of boilers. He was, however, informed that one railway in the North was using large numbers of locomotive boilers made entirely of Bessemer steel, with the exception of the fire-boxes, which were made of Yorkshire iron; and it was generally known that large quantities of Bessemer steel plates were used in the construction of boilers.

MINING NOTABILIA.

[EXTRACTS FROM OUR CORRESPONDENCE.]

SUPPLY OF COALS TO CORNISH MINES.—A few weeks since a complaint appeared in the Journal as to the bad quality of coal supplied to Cornish mines, and I am sorry to say that the complainer is not alone, as the Devon mines are equally badly off. Some of the coals supplied are of the most inferior sort, and, what is still worse, they are well saturated with water, are small and dirty, full of stone, and it takes twice as much as it ought to to generate steam. It must be admitted, however, that much of it was bought cheaply, so that it can scarcely excite surprise that a useless article, not worth its freight, is supplied, and that the coal when dried does not weigh 20 cwts. to the ton.

NEW MINING UNDERTAKINGS.—Nothing better can be done to revive confidence in mining than to invest in well-tried and profitable districts upon the continuations of lodes that have so handsomely paid our predecessors. The truth of this maxim will be found in the position assumed by Wheal Emily Henrietta, on the well-known old lodes in the Camborne district. The buying up of shares in good dividend-paying mines does little to promote the interest of mining or to enhance its value; but one successful instance of new development spreads like wildfire in the sympathetic heart of the mining public. The splendid geological combination of rock in the Isle of Man has produced at Laxey and Foxdale unheard-of treasure, in the shape of silver-lead and blende. We hear of projected associations for extending trials on the great Foxdale lode at FALCON CLIFF. I, for one, believe in the thoughtful brains that have suggested this scheme, and I believe if I live I shall see it result in fortunes to the proprietors, whoever they may be, that have the wisdom to follow out such well-devised trials.—MINERO.

CARGOLL MINES.—The Purser writes (Truro, May 28)—The 140 south is producing more lead ore, and less blende. Other parts as last reported. Blende sampled for sale, June 6—No. 1, 70 tons; No. 2, 157 tons; No. 3, 23 tons: total, 250 tons.

TINCROFT.—It is stated that at the meeting on Friday (yesterday) a dividend of 5s. per share will be declared, although an extra month's cost will be charged up.

NEW CHIVERTON has just sold 13 tons of blende, and there will be 9 tons more ready in a few days. A small parcel of silver-lead will be sampled in a day or two. The mine is looking very well, and some new stamps have been bought.

EAST MID-WALES is progressing satisfactorily.

MID-WALES.—Capt. John Kitto writes that the managing director accompanied him during a recent inspection of the mine. "The lead in the level is getting of better quality, more dense, and contains less blende. The dressing-floors are so crammed with ore waiting to be crushed that we have enlarged them. The engine goes to work to-day, and we shall soon have a good sampling of ore ready. Mr. Taylor expressed himself pleased with the appearance of the mine."

GUNNISLAKE (Clitters).—To say nothing of the increase in the last sale of ore, and which will always be increasing, the improvements underground within these last eight or ten days are worthy of special notice. The lode in the bottom level has increased in size, and to the value of 20*l.* per fathom. The lode in the rise in the back of this level is worth 20*l.* per fathom. The lode in the shaft is looking well. All other points of operation are improved, which augurs well for increased samplings. The mine throughout was never looking so well.

SOUTH HERODSFOOT engine-shaft will be down to the 100 fm. level in about a fortnight, when a cross-cut will be commenced to intersect the Herodsfoot lode. The ground in the shaft is of a most congenial character for lead, and, as there is not a doubt of the rich Herodsfoot lode running through the sett, the progress of the cross-cut should be closely watched, for the first appearance of lead in ever so small a quantity will cause great excitement.

REDMOOR.—From the new tin lode, recently discovered, 100 tons of tinstuff have been broken, which it is calculated will produce ½ cwt. of tin per ton. At this rate the lode will pay well when a little more developed. The agent is sanguine as to the ultimate result.

In driving the adit level at NORTH RETALLACK, a large lode has been intersected, and which is supposed to be the junction of Great Retallack two lodes. As soon as the new engine at the latter mine goes to work the 10 fm. level at North Retallack, and which is not many fathoms behind the junction alluded to, will be resumed, and in all probability the result will be an important discovery.

At EAST WHEAL GRENVILLE, the lode in the engine-shaft, sinking below the 110, is still worth 4 tons of copper ore per fm., and to all appearance is the top of a fine deposit of ore. The caunter copper lode, in the 95, has much improved, now worth 12*l.* per fm.; this lode shows every indication of proving very rich when further developed; it will be intersected in the 110 fathom level in about two months.

TAMAR VALLEY.—The agent (Captain Goldsworthy) writes:—The arches left standing contain rich lead—a splendid looking lode.

NEW CLIFFORD.—The operations are daily getting more interesting: the cross-cut south is now extended 45 fathoms, and the cross-cut north 30 fathoms. The Penstruthal lode is expected in the cross-cut south, and, if found rich when intersected, the shareholders will be well remunerated.

PRINCE OF WALES.—I should strongly recommend shareholders to have the fullest confidence in the mine, and not to be deluded by the misstatements and false reports circulated to depress the nominal value of the property and suit the dealings of interested persons. The shareholders should be guided entirely by results—dividends, a good class of ore, and good balances in hand. No doubt need be entertained but that the appearances at the 65 will improve. It is one of the best mines that has been discovered in this locality since the Devon Great Consols, both for the shareholders and for mine labour.—EXAMINER.

FALCON CLIFF MINING COMPANY.—We desire to call the attention of our readers to the abridged prospectus of this company, which appears in another column. The board is composed of gentlemen of the highest character and commercial position, *who are not the vendors of the property*, but who each subscribe for not less than 100 (5*l.*) shares, and do not in any shape receive one fraction for their services or connection other than what may be voted by the shareholders in general meeting, thus practically demonstrating their confidence in the great value of the setts. This is as it should always be, and then the public would not hesitate to more freely invest in such concerns. We are given to understand upon the most reliable independent authority that the speedy success of this mine is really beyond doubt—in fact, reduced to a certainty by the discoveries made. Investors would do well to satisfy themselves *at once* as to its merits, as we are informed the list will soon close.

SILVER MINING IN MEXICO.—A tour of inspection among the silver mines of the San Luis Potosi district has just been completed by Mr. Frado, the Government Inspector, and he has submitted a most encouraging report of the yield and profit of such as are being worked on a scale about proportionate to their extent and value. One mine in the neighbourhood of Charcas has returned over 1,000,000*l.* worth of silver, at a cost of less than 40,000*l.* The Santa Rosa is raising nearly 20,000*l.* worth per week, employs 460 hands, and the expenses amount in the aggregate to about 5 per cent. of the value of the silver taken out. The mines at Zacatecas also yield large returns. Those owned by Davis and Co., who began operations on a capital of 6000*l.*—the total of their available assets at the time of their recent heavy failure, and which their creditors allowed them to retain—will in a few months clear them of their indebtedness of nearly 200,000*l.* A rich vein of gold, which promises to be profitable, has been struck in the silver mines of Rincan de Romas. The same favorable account is given of other works in active operation.

THE ALBERT GOLD MEDAL OF THE SOCIETY OF ARTS.—The council of the society have this year awarded this medal to Joseph Whitworth, "for the invention and manufacture of instruments of measurement and uniform standards, by which the production of machinery has been brought to a degree of perfection hitherto unapproached, by the advancement of arts, manufactures, or commerce." The medal was instituted to reward "distinguished merit in promoting arts, manufactures, or commerce," and among the recipients in former years have been Sir Rowland Hill, Professor Faraday, and Messrs. Cooke and Wheatstone.

By the death of the late Dr. J. Davy, the service of plate presented to Sir Humphry Davy, in 1817, by several coal mine proprietors, for the discovery of his celebrated safety-lamp, reverts to the Royal Society. The value of the plate is 2500*l.*

M. Cailletet announces the extraordinary circumstance that hydrogen will pass through iron even at the common temperature on certain conditions. He caused two thin iron laminæ to be welded together round the borders, so as to form a large artificial blister. To this was welded a thin tube, establishing a communication with the hollow space left between the two plates, and the whole apparatus so constructed was plunged into a bath of dilute sulphuric acid. The numerous bubbles which escaped through the open extremity of the tube being collected in a receiver, were ascertained to be hydrogen.

CASTING METAL IN PLASTER MOULDS.—In using plaster of Paris moulds for castings of low fusible metals Mr. A. C. SMALL, of Augusta, U.S., has found that the best plan is to dry the moulds perfectly in open air. When about to use them, he warms them just enough to prevent their chilling the metal when poured in. After warming, he holds them over a flame that produces a good deal of smoke, until the inside of the mould is completely blackened over. About 200 castings can be got from each mould.

HOLLOWAY'S PILLS AND OINTMENT.—A frequent cause of gout and rheumatism is the inflammatory state of the blood, attendant on bad digestion and general debility. A few doses of these pills, taken in time, are an effectual preventive against gout and rheumatism, but anyone who has an attack of either should use Holloway's Ointment also, the powerful properties of which, combined with the effect of the pills, must infallibly effect a cure. These pills act directly on the blood, which they purify and improve; they also regulate the secretions, and give tone to the stomach, and thus the whole system is invigorated and put into a condition which enables it to throw off disease, or check its approach.

Now ready, price 5s., by post 5s. 4d.,

STATISTICS OF THE MINES OF CORNWALL AND DEVON,

WITH OBSERVATIONS UPON THEM.

BY THOMAS SPARGO, STOCK AND SHAREDEALER,

GRESHAM HOUSE, OLD BROAD STREET, LONDON, E.C.

I beg to inform the mining interest that my work, under the above title, for 1866 and 1867 is now ready. It contains the following particulars—viz., the geological position, present prospects, names of purser, manager, and secretary, with statement of the annual returns of each mine during the last two years, and of total dividends paid to the present time. The work is illustated by a map of Cornwall and Devonshire; geological district maps, divided into eight sections, in which will be shown the boundary lines of each parish, height of hills, sources of rivers, &c.; maps of St. Just, St. Ives, Marazion, Helston, Gwinear, Chiverton, Bodmin, Liskeard, Devon Great Consols, Ashburton, and Exmouth mining districts, showing boundary lines of each property, with the lodes, &c., traversing them.

It also contains transverse and longitudinal sections of Dolcoath Mine (kindly supplied by the late Captain Charles Thomas); section of workings in Botallack Mine (supplied by the manager, S. H. James, Esq.); longitudinal sections of workings upon the main lode in Great Wheal Vor and Tresavean Mines; geological map of the Fowey district (supplied by Major Davis, R.M.); historical account of the Devon Great Consols, and of all the principal mines in the two counties.

WATSON BROTHERS' MINING CIRCULAR.

WATSON BROTHERS,

MINING AGENTS, STOCK AND SHARE DEALERS, &c.

1, ST. MICHAEL'S ALLEY, CORNHILL, LONDON.

MESSRS. WATSON BROTHERS return their most sincere thanks for the great patronage bestowed and confidence reposed in their firm for 25 years, and to assure their friends and clients it will be their earnest endeavour to merit a continuance of both.

Messrs. WATSON BROTHERS have made arrangements for continuing their weekly Circular, which has had a large circulation for many years, to the columns of the *Mining Journal*, their special reports and remarks upon mines and mining, and state of the share market, will in future appear in this column.

In the year 1843, when Cornish mining was almost unknown to the general public, attention was first called to its advantages, when properly conducted, in the "Compendium of British Mining," commenced in 1837, and published in 1843, by Mr. J. Y. WATSON, F.G.S., author of "Gleanings among Mines and Miners," "Records of Ancient Mining," "Cornish Notes" (first series, 1862), "Cornish Notes" (second series, 1863), "The Progress of Mining," with statistics of the Mining Interest, annually for 21 years, &c., &c. In the Compendium, published in 1843, Mr. WATSON was the first to recommend the system of a "division of small risks in several mines, ensuring success in the aggregate," and Messrs. WATSON BROTHERS have always a selected list on hand. Perhaps at no former period in the annals of mining has there been more peculiar need of honest and experienced advice in regard to mines and share dealing than there is at present; and, from the lengthened experience of Messrs. WATSON BROTHERS they are emboldened to offer, thus publicly, their best services to all connected with mine or the market, as they have for so many years done privately, through the medium of their own Circular.

Messrs. WATSON BROTHERS transact business in the purchase and sale of mining shares, and other securities, payments of calls, receipt and transmission of dividends, obtaining information for clients, and affording advice, to the best of their knowledge and judgment, based on the experience of more than 30 years active connection with the Mining Market.

Messrs. WATSON BROTHERS also inform their clients and the public that they transact business in the public funds, railway, docks, insurance, and every other description of shares dealt in on the Stock Exchange.

Messrs. WATSON BROTHERS are also daily asked their opinion of particular mines, as well as to *recommend* mines to invest or speculate in, and they give their advice and recommend mines to the best of their judgment and ability, founded on the best practical advice they can obtain from the mining districts, but they will not be held responsible, nor subject to blame, if results do not always equal the expectations they may have held out in a property so fluctuating as mining.

Messrs. WATSON BROTHERS having agents and correspondents in all the mining districts, and an extensive connection among the largest holders of mining property, have the more confidence in tendering their advice on all matters relating to the state and prospects of mines and mining companies, and are able to supply shares in all the best mines at close market prices, free of all charge for commission.

SATURDAY, MAY 23.—Market quiet, but Chontales shares firmer, at 1¾ to 2; Prince of Wales, 46s. to 48s., ex div.; Great Retallack, 2¼ to 2½; East Grenville, 35s. to 37s.; Marke Valley, 6⅞ to 6⅞; Wheal Chiverton, 2 to 2¼; Grenville, 33s. to 35s.

MONDAY.—Market still very quiet. Chontales shares opened 2, buyers, and then declined to 1¾, 2; Prince of Wales, 45s. to 47s.; Wheal Kitty (St. Agnes) shares in request, at 2⅜ to 2⅝; Great Wheal Vor, 17½ to 18⅛; East Seton, 15s. to 20s.; Chiverton Moor, 6 to 6¼.

TUESDAY.—The market continues very quiet. Prince of Wales, Grenville, and Chiverton Moor shares flatter; Chontales shares firm at quotations. Prince of Wales, 43s. to 45s.; Grenville, 30s. to 32s. 6d.; Chiverton Moor, 6⅛ to 6¼; Great Retallack, 2¼ to 2½; West Chiverton, 63½ to 64½; Wheal Emily Henrietta, 40 to 42; Wheal Seton, 80 to 85.

WEDNESDAY.—The market is moderately active to day; Chontales and Prince of Wales shares chiefly dealt in. Chontales, 1¾ to 2; Prince of Wales, 42s. 6d. to 45s.; Chiverton Moor, 6¼ to 6⅜; East Grenville, 34s. to 36s.; West Frances, 25 to 30; Wheal Chiverton, 1¾ to 2; Great Laxey, 17 to 17½; Great Wheal Vor, 17 to 18; Marke Valley, 6¼ to 7.

THURSDAY.—The dealers are engaged in the settlement of the account, and there is very little business doing. Prince of Wales, 42s. to 44s.; Chontales, 1⅝ to 1⅞; West Chiverton, 63 to 64; Wheal Chiverton, 1¾ to 1⅞; Chiverton Moor, 5⅞ to 6⅛; West Frances, 28 to 30.

FRIDAY.—Settling day, and not much doing. Prince of Wales firmer, at 42s. 6d. to 45s.; and West Frances advanced to 30, 35. Chontales, 1¾ to 1⅞; Marke Valley, 6¼ to 7; North Crofty, 2 to 2¼; Emily Henrietta, 39 to 40; West Chiverton, 63½ to 64½; Wheal Chiverton, 1¾ to 1⅞.

Mining Correspondence.

BRITISH MINES.

ABRAHAM CONSOLS.—J. Vivian, May 28: The lode in No. 2 shaft is much the same as it has been for the last three weeks—large, and split into several branches, or parts, and not producing tin enough to set a value on it. Ground still continues hard.

BOTTLE HILL.—Joseph Eddy, May 28: South Lode: The lode west of shaft, in the 12, is about 3 ft. wide, and continues to yield good stamps work. The lode east of shaft, in the same level, is about 2 ft. wide, now yielding good work for tin. The tribute ground on main lode is turning out about the same as to size and quality as it has for some time past. The samples will be sent off to the different smelters on Saturday or Monday next, the quantity about 5 tons.

CALDBECK FELLS.—W. Francis, May 22: The lode in the stope west of shaft, sinking under the 90 west, on the caunter lode, is worth 16 cwts. of blue lead per fathom; stoping by six men, at 5*l.* 10s. per fathom. In the new winze sinking under the 90 west, on the north lode, the lode is worth for copper and lead 1 ton 10 cwts. per fathom; sinking by six men, at 14*l.* per fathom. The lode in the 90 fathom level west, on the north lode, has decreased in value, and is now impregnated throughout with lead, but not in sufficient quantity to value; driving by four men, at 9*l.* 10s. per fathom. Since my last report the lode in the 90 east, on the north lode, has greatly improved, and is now worth 1 ton of copper and lead per fathom; driving by two men, at 9*l.* per fathom. Craze's stope, in the back of the 90 west, on the caunter lode, is worth 15 cwts. of blue lead per fathom; stoping by four men, at 4*l.* per fathom. Hodgson's stope, in the back of the 80 west, on the north lode, is worth for lead and copper 18 cwts. per fathom; stoping by four men, at 4*l.* per fathom. We are driving on the south string in the 80 west, on the caunter lode, which is worth 8 cwts. of blue lead per fathom; driving by two men, at 7*l.* per fathom. Lamb's stope, in the back of the 80 east, on the south lode, is worth 14 cwts. of grey lead per fathom; stoping by two men, at 3*l.* 5s. per fathom. Wilkinson's stope, in the 70 west, on the north lode, is worth 10 cwts. of blue lead per fathom; stoping by two men, at 5*l.* per fathom. The lode in the 60 west, on the north lode, continues much of the same character as when last reported; driving by four men, at 8*l.* per fathom. We have holed to the 50 west, from the driving east of the new rise, in the back of the 60, and have now opened out a good stope in the back of the former level, worth fully 10 cwts. of blue lead per fathom; stoping by four men, at 3*l.* 10s. per fathom. In the 30 west, on the north lode, we have a strong, masterly lode, producing stones of copper and lead, and I am of opinion that we may soon expect an improvement in this end; driving by four men, at 8*l.* per fathom. In the cross-cut driving south from the 30 west, I am glad to say the ground presents indications of a speedy change for the better; driving by two men, at 14*l.* per fathom. The stopes in the old workings in the back of the 30 fathom level are worth as follows:—Brown's stope, 8 cwts. of blue and grey lead per fathom; stoping by four men, at 3*l.* 15s. per fathom. Shield's stope, 10 cwts. of blue and grey lead per fathom. Nicholson's stope, 12 cwts. of grey lead per fathom. Asbridge's stope, 16 cwts. of blue and grey lead per fathom. We have sunk the new air-shaft west about 8 fathoms, and have cut a strong feed of water, which has compelled us to suspend the sinking, and the men are now employed clearing stuff in the shallow level west; when we have cleared the level we intend driving it west, and trust this will be the means, in a few fathoms driving, of draining the water from the shaft. The character of the lode in the intermediate level, east at Mexico, has improved, and is producing occasional stones of lead ore; the lode is still discharging a very strong feed of water, which has nearly drained all the water from the 50 fathom level above; driving by four men, at 3*l.* 3s. per fathom. The rise in the back of the above level is being risen by two men, at 2*l.* 18s. per fathom. We have to-day sampled 20 tons of blue and 30 tons of grey lead ore, and have also ready for market about 10 tons of copper ore.

CAPE CORNWALL.—Richard Pryor, Francis Hosking, May 27: The lode in the 100, driving east of engine-shaft, is 2½ feet wide, producing good stones of tin, and we hope in a short time to drain the 90 fathom level winze. The ground in the 70 fathom level cross-cut, driving south of engine-shaft, continues just the same as when last reported on.

CARADON CONSOLS.—S. Bennetts, May 26: The cross-cut north at the 78 is much the same as last noticed. From the appearance of the ground in the 78 west, I think the cross-cut is very near; the lode is without change. In the 68 west the lode, or rather the leading part of it, continues of a very promising character, good work but small, from 3 to 6 in. wide, the remaining part of the end being full of small veins. The lode in the winze below this level is somewhat larger than it was last week, and equally productive.

CASHWELL.—J. Peart, May 23: There is very little change in the drift going east below Scar limestone. No. 1 stope is producing very good ore, the vein is much wider than No. 2 stope, but is a little harder, and occasionally yields very large pieces of ore. There is nice ore in No. 2 stope, but it will fast work up to the top of the limestone, as it is very soft; where it joins No. 1 stope it is much harder, but still produces as much ore. The stope in 5-yard limestone is producing some very good ore; I have not seen this place look so well for a considerable time. We last week sold and delivered 40 tons of lead ore to Messrs. Shield and Dinning, Langley Lead-Works, at 13*l.* 6s. 3d. per ton.

CEFN BRWYNO.—J. Paull, May 26: The 92 fathom level east has improved within the past few days, and the lode will now produce 12 cwts. of lead ore per fathom. The same level, west of shaft, is in a large lode, which contains good spots of ore occasionally. The lode in the 80 fm. level east is steadily improving, and is a fine looking lode, about 5 ft. wide, wide, now yielding 30 cwts. of lead per fm.; this level is now opening out some good ore ground. The 80 fm. level, west of shaft, is in a strong hard lode, which is disseminated throughout with strings of lead ore, and I anticipate an improvement here very shortly. The lode in the 56, at deep adit level east, is 4 ft. wide, composed of spar, carbonate of lime, blende, and clay-slate, with strings of lead ore; and from its present appearance we may expect to open out some ore ground here shortly. No change in any other part of the mine since last reported on. The dressing, &c., is being proceeded with as expeditiously as possible, and we shall have a small parcel of ore ready for the market in about a fortnight hence.

CUDDRA.—F. Puckey, A. Cundy, May 27: In the 142 fathom level, west of Walker's shaft, we are cutting out a portion of the lode further east from the winze, to lengthen the stope, and are making preparations for putting in a stull in the back of that level. In the stope east of the winze the tin part of the lode is 6 ft. wide, composed of quartz, peach, and tin, worth for the latter 15*l.* per fm. In driving the 130 fm. level west, by the side of the lode, we have intersected several branches, which are dropping into the lode and causing the end to be spare for progress. We consider that the end is approaching near the tin ground gone down below the 100, and after driving another month we intend to cross-cut the lode, to prove its size and value. In the stope in the bottom of the 130, west of winze, the lode is 4 ft. wide, worth 16*l.* per fm. In the western stope, in the back of the 100, the lode is 6 ft. wide, composed of quartz, peach, and iron, producing some good work for tin, and worth at present 12*l.* per fm. In the middle stope, in the back of the same level, we are desuing the lode, but shall commence taking it down in the early part of next week; the lode when last taken down was 9 ft. wide, worth 15*l.* per fm. In the eastern stope the lode is 10 ft. wide, worth 16*l.* per fm. for that width. We have five tribute pitches working at different levels, three at 11s. and two at 12s. in 1*l.*, and paid at the rate of 45*l.* per ton for tin, and the men getting fair wages. Our prospects in the mine are looking a little better, and we hope for the future that we shall increase our returns of tin. We have sold our parcel of black tin, computed at 12 tons, at 58*l.* 10s. per ton, which will be delivered on Friday next.

CWM ERFIN.—May 26: The branch that we are driving on, north of the old workings, in the 10, has fallen off in value, its present value being no more than 5 cwts. of lead ore per fathom. The lode in the deep adit level, east of the boundary, is 18 in. wide, composed of killas, veins of quartz, and spots of mundic, carrying a well-defined footwall, and ground wet for exploring. The lode in the five stopes over the back of this level will produce on an average 1¼ ton of ore per fathom. The lode in Taylor's drift, going east of the boundary, is 20 inches wide, and looking very poor; the lode is composed of killas, flookan, and a dark spar, such as we find never carry any ore with it; the bearing of the lode here is full 30° north of its regular course. We have thoroughly examined the south side of the level, and do not find anything gone off in that direction. We are driving a cross-cut south in the same level about 8 fathoms east of the slide, which is 40 fathoms behind the eastern end, but nothing has been met with of any value. The lode in the stope over the back of Taylor's drift, 25 fathoms east of the boundary, has improved during the past week, and will now yield from ¾ to 1 ton of lead ore per fathom. We expect this stope to further improve as we near the level above. We have eight men employed in the various stopes over the back of the same level, where the lode will yield on an average 1 ton of lead ore per fathom. We continue to drive the cross-cut south in William's level, and yesterday we cut a joint or wall, carrying a branch of quartz about 1 in. wide, and a little flookan; a little time now will prove this point. We have sampled to-day 53 tons of lead ore.

DEAN PRIOR SLATE QUARRY.—W. R. Diggins, May 26: The bed of slate is still improving in quality and quantity. We are now taking out first-class slate at the present depth of 70 ft., at the west end of the pit; the slate runs much larger going into the hill, and can be raised of any size required, and there is an immense bed of first-class quality now before us, and we have a great demand for the slate. We shall send away in the early part of next week two more truck loads by rail. I am happy to say, after making up the month's accounts on Saturday last, including all costs, the quarry has paid 50 per cent. for the past month, and has every appearance of being a good and lasting paying quarry.

DEVON AND CORNWALL.—T. Neill, May 26: In the 34 east we are driving by the side of the lode; ground spare for driving. We have one stope in the back of this level, worth 3 tons of ore per fathom. We have taken down the lode in the 34 west; it is 5 ft. wide, and worth at present 3 tons of ore per fathom. The lode is still very promising, but at present not so productive. The lode in the stope in the back of this level is worth 5 tons of ore per fathom. The lode in the 22 west is worth 1 ton of good ore per fathom. One stope in the back of this level is worth 3 tons of ore per fathom. The pitches are producing fair quantities of ore.

EAST CARN BREA.—I. Richards, May 25: Thomas's Engine-shaft, No. 3 Lode: In the 90 east the lode is 1½ ft. wide, composed of quartz, mundic, and a little copper ore. The lode in the 90 west is 1 ft. wide, producing good stones of copper ore. The lode in the 80 east is 2 ft. wide, consisting of quartz, mundic, fluor, and saving work for copper ore. The lode in the rise in the back of the 80 west is 1 ft. wide, consisting of capel, quartz, mundic, and a small portion of copper ore. The lode in the 60 west is 1 ft. wide, producing a little copper ore. The lode in the 50 west is 15 in. wide, composed of quartz, mundic, capel, and good stones of copper ore. The 40 west is suspended, to admit of a winze being sunk in the bottom thereof.—Buckley's Shaft, No. 6 lode: The 50 west is suspended, and a rise is being put up in the back thereof, the lode in which is 1 ft. wide, composed of capel, quartz, fluor, mundic, and a little copper ore. The 40 west is suspended, and a winze is being sunk in the bottom thereof, the lode in which is 15 in. wide, and worth 2 tons of copper ore per fm.

EAST CHIVERTON.—J. Grose, R. Southey, May 27: During the past month we have been busy about the pitwork in Bartlett's shaft. The shaft has been sunk 11 feet for cistern and bearers. We have fixed lift, put in cistern, also a new working barrel, put in penthouse, and cut plat and fixed tackle, &c. All now is in first-rate order for sinking the shaft under the 25 fm. level with speed and economy. We have no change to report on the lode or main cross-cut north, as the men have been employed the greater part of the time assisting shaft-work. The engine and pitwork are in good order, and keeping the water on less fuel than formerly.

EAST GUNNISLAKE AND SOUTH BEDFORD CONSOLS.—James Bray, May 28: There is no change in the 36 fm. level cross-cut south. The lode in the shallow adit is still very large; it is composed of gossan, spar, and mundic, disseminated with ore throughout. The lode in the rise in the back of the shallow adit is 7 ft. wide, composed of gossan, prian, and mundic, with good strings of black and grey ore, as fine a looking lode as can be seen. They have resumed driving east on the Impham lode.

EAST PROVIDENCE.—J. Nancarrow, W. White, May 27: The 50 east continues to open up tribute ground. The lode in the 70 east is smaller than usual; but as the ground is improving the lode also may be expected to be better shortly. In the winze below the 82 we are making fair progress in sinking, and shall push it down as fast as possible. In the 94 we are driving towards the winze, and expect to get under it early in next month. Our operations on the Carbona at the 94 are suspended till the level is ventilated. At the 106 we have discovered a caunter lode, and are now cutting through it; so far as seen it does not contain much tin, but has a very good appearance for tin, and contains a great deal of mundic and iron. We expect to report more fully on this next week. The pitches look just as usual.

EAST WHEAL GRENVILLE.—G. R. Odgers, W. Bennetts, May 27: The lode at the engine-shaft, sinking below the 110, is 2 ft. wide, producing good copper ore, worth 4 tons per fathom, with every appearance of continuing; this is a good feature for this mine. The lode in the 110 east is split into branches; this was precisely the case in the 95 preceding the junction of the caunter and main lodes. The lode in the 110 west is 18 in. wide, producing good work for tin, with a little copper ore, worth about 7*l.* per fm. The stope above this level is also worth 7*l.* per fm.—Caunter Lode: The lode in the 95 east is 2 ft. wide, producing rich work for tin and good grey ore; together we estimate it to be worth quite 12*l.* per fm.; this is on the eastern side of the cross-course. The lode in the rise above this level is 15 in. wide, and worth from 1 to 1½ ton of good ore per fathom, with good work for tin; worth together 10*l.* per fathom. Seeing that we have at least 170 fms. from the present 95 east end to the boundary, and that this caunter lode has not been seen at any level above the 95, for which the rise is being put up to prove, and also to enable us to calculate where will be the nearest point to intersect it—say, at the 75—and in our opinion quite a new feature to this mine.

EAST WHEAL RUSSELL.—W. Richards, May 28: We have come down upon water at the adit shaft, on the north boundary lode, which impedes the progress for the time. The lode in the stope in back of the 77 is not quite so productive at the present time; this operation will be suspended on tutwork at the end of the month, and set on tribute. The north lode in the 88, east and west of the cross-cut, has become small, and, being poor, we shall suspend these points at the end of the current month, and put the men to cross-cut to intersect the north lode in the 120, a little to the west of and over Davey's cross-cut, in the 130 fm. level. The north lode in the 100, east and west of Manley's cross-cut, and the ground by the side of it has become more compact; at the present time the lode retains its size, however, of 3 ft. in width, and contains capel, peach, quartz, mundic, and 1 ton of copper ore per fm. in each end. The south lode in the 130, east of the cross-cut, is a little smaller; at the present time it is about 18 in. wide, and produces some good ore occasionally; the ground is good for progress. The north lode, in the 130, east of Davey's cross-cut, is 5 ft. wide, and very promising, containing peach, quartz, capel, prian, mundic, and good stones of copper ore; water issues from this point very strongly. The part of the middle lode now being cut through in the 140 contains iron, quartz, spotted with red oxide, and native copper; it is wet and vughy, which considerably impedes the progress at the present time.

GAWTON COPPER.—G. Rowe, G. Rowe, jun., May 23: During the past week our shaftmen have been engaged in completing the trip-plat, laying sollar, and other necessary timber work, including penthouse, dividing and casing, making the whole complete, connected with the whim and engine-shaft to the 70, and are now in regular course of sinking King's engine-shaft below that level, preparatory to fixing a new standing lift. The lode in the 70, west from cross-cut, is at present unproductive. The lode in the 70 east is improving in character, yielding 2½ tons of ore per fathom. The lode in the 60, east from cross-cut, is worth 1 ton of ore per fathom. The lode in the winze sinking below the 60 is worth 4 tons of ore per fathom. The lode in the 50 east is hard and slow of progress, yielding occasional stones of ore. Our tribute department is without change.

GREAT LAXEY.—R. Rowe, May 22: The sinking of the main engine-shaft and driving of the 220 are for the present suspended, and the men are busily employed in preparing for the new bottom plunger-lift, and fixing new and stronger pump-rods from the 80 downwards, which have now become necessary, in order further to carry on the sinking without interruption. The 210, driving north, is making good progress, but the lode continues small, about 1 ft. wide, and worth 20*l.* per fathom for lead and blende. The 200 is still opening out a large and productive lode, worth from 80*l.* to 90*l.* per fathom; and, judging by appearances in the next upper level, I expect further improvements in this drivage. In the 190 the lode has been crossed by a slide, which has disordered and thrown it some little distance to the east, but we have already overtaken a part of it, which though not yet sufficiently proved for us to give its full size and value, contains good lead and blende. The 180 now, we expect, getting close up to the valuable ground setting down below the 165 is worth from 50*l.* to 60*l.* per fathom; and the 165 fathom level end, in advance of the 180 about 20 fathoms, continues to be worth from 70*l.* to 80*l.* per fathom. The stopes in the roof of the 165 are still producing well, the most valuable being worth 150*l.* per fathom, and the sump sinking below the 155, immediately above this ground, maintains its full value, and will when holed assist our raisings materially. I see no alteration in any part of the south ground since my last report.—Dunbell's: The lode in the engine-shaft, sinking below the 125, has improved, worth 70*l.* per fathom, and the sinking is also going on more rapidly. The new stopes in the roof of the 125 are much as expected, varying in value from 50*l.* to 100*l.* The 25 fm. level end, driving north, is worth 80*l.* per fathom, and the sump sinking in advance of this end from the 110 is worth 150*l.* per fathom. The 110 fathom level end, and the upper levels and stopes in this mine, are much as last reported.—Glenroy: Our operations in sinking and driving are here steadily progressing, and the lode continues to give promise of early and valuable discoveries, producing both in the sinking and driving a little lead and blende.

GREAT MONA.—J. Trewin, May 16: The lode at the engine-shaft is improved in character since I wrote you on the 30th ult.; it contains more carbonate of lime than usual, and is very promising.

— J. Trewin, May 19: The lode at the engine-shaft is composed of a very kindly quartz, mundic, blende, copper, and lead ores, and contains more carbonate of lime than when I wrote to you on the 16th inst., and is exceedingly promising.

GREAT NORTH DOWNS.—May 27: Owing to the breaking of the bucket-rod in the long sinking lift at Sleggan's shaft it has greatly retarded the operations in the bottom of this shaft during the past few days. The sinking of Vivian's engine-shaft is going on favourably since the pitwork has been fixed. The lode towards the east end of the shaft carries good stones of ore. Butler's shaft is very stiff, but as the ground is quite dry we are able to make fair progress. The lode in the deepest point yields saving work for copper. In King's shaft, below the 84, the lode is worth 15*l.* per fathom for length of shaft—9 feet. We have, however, water in the bottom, and can go no deeper till further drained, which we hope to do shortly. The 84, west of King's, is worth 15*l.* per fathom. The 74, west of Sleggan's, is unproductive. The lode in the winze below the 64, east of Butler's, is worth 10*l.* per fathom. The 64 end west shows spots of ore. We are urging on the 64 cross-cut south on the cross-course, which is composed of sulphur, mundic, prian, and friable spar, with small stones of strong yellow copper ore. It has a very promising appearance, and we think the south lode will make ore near this cross-course.

GREAT RETALLACK.—G. R. Odgers, J. Harris, May 27: The masons will get up the house this week. The carpenters are making the roof, and the engineers are busy preparing the engine, the greater part of which is on the mine; and nothing shall be wanting on our part to get the engine at work in the least possible time.

GREAT SOUTH CHIVERTON.—J. Nancarraw, J. George, May 25: There is a fine looking lode in the 50 east, which is 4 ft. wide, contains a good deal of flookan and carbonate of lime, and looks as if it were coming into lead at once. The ground in the 50 cross-cut north is quite congenial for lead, and fair progress is being made in driving. The 40 west continues to look well; the lode is larger, and we have broken some excellent lead from the end to-day. The two lodes in the 30 west are getting nearer together, and we expect to see an improvement shortly. The 20 east is improving, and yields lead to save. The new shaft is down 7 fathoms.

GREAT SOUTH TOLGUS.—J. Daw, May 27: At Noel's shaft, sinking below the 150, the lode is producing 1½ ton of ore per fathom. The men are now employed in cutting a trip-plat west of the shaft, which will be completed in about a week from this time. In the 150 west the lode is 1 ft. wide, producing 1 ton of ore per fathom. In the 150 east the lode is 1½ ft. wide, producing 2 tons of ore per fathom. In the 140 east the lode is 2 ft. wide, producing good stones of ore. On Monday last we set two tribute pitches in the back of the 150, east of Noel's shaft, at 3s. in 1*l.*, and one west of the shaft at 6s. in 1*l.*; also four others from 7s. 6d. to 12s. in 1*l.*, and six pitches on tin, averaging 10s. 6d. in 1*l.* We sampled to-day 139 tons of ore.

GREAT WHEAL BADDERN.—R. Pryor, H. Tregoning, May 23: We have nothing new to notice in the 75 cross-cut, south of Hill Brothers engine-shaft, during the past week; the ground continues very wet and spare for driving, and the lode letting out an increased quantity of water. We have not as yet reached the south part of the tin lode, therefore we cannot at present report its value. In the 75 end, driving west from the cross-cut, on the Baddern lead lode, the ground appears much the same, and the lode, from 2 ft. wide and upwards, of a very promising character, with an abundance of water flowing therefrom.

GWYDYR PARK.—W. Smyth, May 26: At Gwyn Llifion the men are engaged enlarging the bottom of the shaft, where the lode is rather small at present, but looking very promising. There is a very good lode in the back and bottom of the 8, and by the dip of the lead in this level I am of opinion it will be in the shaft after a few feet sinking. There is no particular change in Gwydyr since last report.

HINGSTON DOWN CONSOLS.—T. Richards, May 27: The stope in the bottom of the 140 fm. level, east of Bailey's engine-shaft, is worth 25*l.* per fm. The 140 east, and stopes in the back over, are not so productive; present value, 18*l.* per fm. The stopes in the back of the 130 fm. level are worth 20*l.* per fm. The stope in the bottom of the 120 fm. level east is worth 20*l.* per fm.

LOVELL CONSOLS.—W. Chappell, May 21: We are pushing on the sinking of the new flat-rod shaft below the adit, and from present appearances we shall have a good lode for tin in driving west; it will take about three weeks to complete the sinking, and make the alteration, so as to enable us to drive east and west.

MARKE VALLEY.—John Truscott, May 27: The ground at Salisbury shaft continues favourable for sinking.—Marke's Lode: The 124 east will produce 1 ton of copper ore per fathom. The 124 west will produce 2 tons of copper ore per fathom. The 112 east will produce 2½ tons of copper ore per fm. The 100 fm. level west is poor.—Rosedown Lode: The 80 west will produce 1½ ton per fm. The 60 west will produce 2 tons per fathom. The 50 west will produce 3 tons per fathom. The 40 east will produce 2 tons per fathom. The 40 west will produce 4 tons per fm. The 30 east will produce 4 tons per fm. The 30 west will produce 4 tons per fm.

MAUDLIN.—John Tregay, May 23: The new north lode, in the deep adit level, is large and very promising, and produces rich stones of yellow copper ore.

MINERA UNION.—W. T. Harris, May 27: Low's shaft is now 16 yards below the 40 yard level; the lode still maintains its promising appearance, and at present worth 8 cwts. lead per fathom. The lode in the 40 north is 2½ ft. wide, yielding stones of lead not to value.—Williams's Shaft: The 40 yard level north is worth 6 cwts. of lead per fathom; the lode in the roof of this level is worth 10*l.* cwts. lead per fathom.—Brabner's Shaft: The pitch in back of the 60 yard level is worth 5 cwts. lead per fathom. The pitch in back of the 80 yard level south is worth 15 cwts. lead per fathom.—Boundary Shaft: The pitch in bottom of the 60 yard level is worth 10 cwts. per fathom. The pitch in back of the 50 is worth 5 cwts. lead per fathom.

NEW CLIFFORD.—Jas. Michell, May 28: At the 40, south of Holland's engine-shaft, our cross-cut is being driven by eight men, at 6*l.* 10s. per fathom; the stratum is elvan, and for the last 4 or 5 feet is of a coarser character, which I am pleased to see, as I think we are getting near the killas and Penstruthal lode. This cross-cut has been driven 45 fms. south from engine-shaft. At the same level, and from the same shaft, we are continuing our cross-cut north; driving by six men, at 5*l.* 5s. per fathom; the stratum killas, and of a highly mineralised character. This cross-cut has been driven 30 fms. north of main shaft. When we take into account what has already been done towards the intersection of the lodes that traverse this property, and the expectation of seeing them 50 fms. deep in such strata and locality, and knowing these very same lodes in the adjoining mines, at the same depth (50 fms.), gave immense profits to the shareholders, I consider our prospects very cheering, and am fully convinced we shall very soon have a rich mine.

NEW CROW HILL.—W. Treloase, May 26: The ground in the winze below the 70 continues hard and spare for sinking, but, fortunately, I do not fancy the water increases anything of consequence. Our No. 2 stope, above the 35, still looks well, and is now worth in places 45*l.* per fathom—a magnificent-looking lode, and it seems the orey part of it is lengthening further west, though we cannot say much about this until we get a few feet higher with the stope.—Wheal Louisa: The ground in the engine-shaft here is much better than it was a few weeks ago, and good progress is now being made with the sinking. The lode in the 60 fathom level end, east of the shaft, is now larger than the end of a very strong composition, and producing some fine stones of lead ore—very vughy and mundicky. The cross-cut, which we are driving out northward through the lode, to ascertain its size, &c., a few fathoms behind the end, seems to be driven beyond the lode, and is now into a clean killas country; but to make sure of this I intend to push it on a few feet further, yet I intend to send the ore to Par on Thursday next, if the wagoners can attend to it.

NEW GREAT CONSOLS.—R. Pryor, R. Trathen, T. Bennetts, May 25: The new rope will be on the mines by Wednesday next, when we shall at once resume the forking of the mine with all possible speed, and no time will be lost in reaching the bottom of the mine. Every preparation has been made during the past week, so that no delay shall occur when the rope is received. The tributers are working well, and are sending to surface good piles of copper ore, the dressing of which is being pushed on as fast as possible, and we hope shortly to be able to set several tutwork bargains. We have sent off 105 tons of mundic, and shall have 100 tons of copper ore dressed up in 8 or 10 days time.

NEW TRELEIGH.—S. Michell, May 23: Our pay and setting went off to-day satisfactorily, and the following are the particulars:—The new shaft to sink below the 70 fm. level by eight men; the same to be completed to the 80, at 19*l.* per fathom. I like the appearance of the lode in the shaft very much. The rise in back of the 70 to two men and two boys, at 3*l.* per fathom; this will be holed to the 60 in the course of a few days. The 60 to drive on the south part of the lode by two men, at 3*l.* per fathom; this end is improving. Two stopes in back of the 60 by two men in each stope, one at 1*l.* 12s. 6d. per fathom; the other at 2*l.* per fathom. These are all the bargains set to-day, but when we have better ventilation, which will be the case when the rise is communicated, we must, of course, put on a few more hands to raise ore.

NEW WHEAL LOVELL.—C. Bawden, J. Prisko, May 27: The lode in the 42 end east still continues as good as ever, worth 100*l.* per fathom, and the lode in the rise in the back, going up towards Lanyon's shaft, is worth 50*l.* per fathom. The sinking of Colonel's shaft progresses favourably.

NEW WHEAL TOWAN.—R. Pryor, May 27: During the past week we have cut several branches in the adit level, each one containing mundic and a little copper ore, which we believe to be the lode, and shall commence to drive on it in a day or two.

NORTH DOWNS.—F. Pryor, J. Grenfell, May 26: In the 85, west of King's shaft, the lode is much the same as for some time past; it is very regular, but unproductive. The 60 west is presenting a very promising appearance, and it is of the same value as last reported—6*l*. per fathom. The rise in the back of this level is looking well, worth 15*l*. per fm. A stope in back of this level (20 fms. behind the end) is worth 10*l*. per fm. We have communicated the 50, west from point of horse, with the 50, east of cross-cut, which has opened up some good tribute ground. The winze sinking below this (the 50) level is worth 10*l*. per fathom. There are two stopes in the back of this level, also worth 10*l*. per fm. each. The 40 west has improved since last report, now worth 7*l*. per fathom, with a promising appearance. We have resumed the driving of the 50 fathom level west with the men who were engaged in driving this level west from point of horse-price for driving, 7*l*. per fm. We shall sample to-morrow 133 tons (computed) of good quality ore.

NORTH JANE.—J. Rowe, May 27: We are making good progress in the 35 fm. level cross-cut south from Leed's shaft. The ground is still favourable for producing tin when we meet with the lode. There is more water coming from the end, which looks kindly for being near the lode. The lode in the rise over the 35 is 4 ft. wide, with a leader of tin on the south wall worth 7*l*. per fathom. We are making fair speed in the rise, and are in hopes of meeting with a good lode in the 35 fm. level cross-cut.

NORTH RETALLACK.—G. R. Odgers, J. Harris, May 27: In the adit level north on No. 2 lode we have intersected a large lode, containing mundic, gossan, &c.; it is very shallow, and hence unsettled, but we believe it to be the junction of the Nos. 1 and 2 lodes.

OLD GUNNISLAKE.—H. Rickard, May 27: In the clearing and laying tramroads at the 81 and 91 west, on Green lode, there is nothing new to call for remark—still making rapid progress. We have put in footway from the 71 to the 81, and began clearing the 71 fm. level west from winze. The 61 fathom level west on the middle lode is clear to Susan's, and the end driven beyond it 30 fms. I cannot say much about the lode in the end at present, until we have let down the water and cleared it out. Susan's shaft is sunk below the 61 with water in it; the ground both east and west of this shaft is stoped away for several fathoms in length, both on back and bottom of the level. The tributers are working well, with every prospect of getting good remuneration. The machinery on the mine is working well.

PEDN-AN-DREA UNITED.—Wm. Tregay, J. Thomas, E. Chegwin, May 23: Sump: The lode in the 140 west end is worth 10*l*. per fathom. The lode in the 130 west is worth 8*l* per fathom, The lode in the 120 west is worth 25*l*. per fm. The 120 west winze is worth 20*l*. per fathom.—Cobbler's: We have intersected a part of the lode in the 110 east; it is producing stones of tin, but we have not yet cut far into it. The lode in the 110 west end is worth 12*l*. per fathom. We have intersected a lode in the 90 north, producing blende and occasional spots of tin; but it is small in the cross-course. Cobbler's shaftmen are still employed fixing skip-road from the 110 to the 120 fm. level, which we expect to complete next week.—Sump and Bragg's: In the rise in the 100 east the lode is disordered; we have set the men to drive south, to prove if more of the lode is standing in that direction. The progress made in the 68 east has not yet been good. We expect to make better progress next week. We have had some difficulty in getting down the large rocks. We sold on Thursday, at Bissoe, 6 tons 8 cwts. 1 qr. 6 lbs. of black tin, for 361*l*. 9s. 9d.

PENHALLS.—S. Bennetts, Wm. Higgins, May 22: The lode in the diagonal shaft is not quite so productive as it was last week, it being disordered by small veins crossing it, the present value being 12*l*. per fathom. In the 50 west, on new lode, we have intersected the main part of the western cross-course, which is 8 ft. wide; the lode is not yet found on the west side, although some excellent stones of tin are seen there, which shows the lode to be near at hand. The rise on the east side of the cross-course, above this level, is not very productive just now, and being near the great gossan is suspended. The 45 east, on new lode, is worth 8*l*. per fathom. The 44 east, on Pink lode, is not so good as last reported, and the 40 west, on the same lode, is without any material change. The pitches throughout the mine are producing the usual quantity of tin. In the old Pink Mine the water is being drained from the 20: and, consequently, the progress in forking is for the time slow.

PENHALE UNITED.—Richard Pryor, H. Bennetts, J. Pryor, May 26: During the past week we have had to change the working barrel of the bottom lift in Phillips's engine-shaft, consequently there has not been much done in the bottom of the mine since our last report. If all goes well the mine will be in fork to the bottom level (the 90) by Thursday, when we shall at once resume the clearing of the stuff from the 90 fathom level plat, and hope shortly to be able to go in this level both north and south of the shaft. Morcom's shaft will be completed to the 70 by the end of the week, and no time will be lost in completing the same to the 80 fathom level, when we shall be able to set a great many more tribute pitches. We are getting on well with the dressing of lead. Our machinery is in good condition, and working well.

PENHALE WHEAL VOR.—W. H. Martin, May 26: Our progress in sinking Hollingsworth's engine-shaft below the 84 is satisfactory.—Penhale North Lode: In the 60, west of Holroyd's shaft, the lode is 1 ft. wide, producing stones of tin. In the 50 west the lode is 6 in. wide, and yields tinny work, which will pay for stamping. The lode in Little Benjamin's shaft, sinking below the 50, is 8 in. wide, composed of peach, prian, and good stones of tin, and the ground easy for exploring. The tributers are just the same as last reported. We sold yesterday 3 tons 7 cwts. 3 qrs. of black tin, realising 189*l*. 14s.

PRINCE OF WALES.—J. Gifford, W. Gifford, May 28: In the 65 east the lode is 2 ft. wide, composed of capel, peach, and mundic, with occasional stones of black and yellow copper ore. In the 65 west the lode is 3 ft. wide, composed principally of capel spar, with stones of ore intermixed. In the 55 east the lode as far as seen is 6 ft. wide, with no north wall as yet, worth 30*l*. per fathom. In the 55 west we have communicated the rise with the winze in the 45. Three stopes in back of the 55 are worth on an average 30*l*. per fathom. In the 45 east the lode is 2 ft. wide, principally capel. In two tribute pitches in back of the 45 the men are getting good wages. In the new shaft we are progressing with all possible speed; ground favourable. In the 55 west we have met with the west cross-course, but not cut into it yet. It will take this week to take down lode home to the cross-course.

PRINCESS OF WALES.—G. Rickard, May 27: We continue to make good progress with the driving of the north adit level cross-cut towards No. 2 or main lode. The ground is more favourable for driving, and is getting into a beautiful channel of killas for the production of copper ore. Nothing else new.

PROVIDENCE MINES.—W. Hollow, P. Rogers, J. White, May 26: Caunter Lode: The lode in the stopes in the back of the 85 is worth 15*l*. per fathom. The lode in the 75 east is worth 15*l*. per fathom. The lode in the stopes over this level is worth 10*l*. per fathom. The lode in the 65 east is small. The stopes over this level are worth 15*l*. per fathom. No. 6 Carbona is worth 100*l*. per fathom. The stopes over this Carbona are worth 30*l*. per fathom. The 75 south, on the Comfort lode, is producing stones of tin. The south lode, in the 85 west, is worth 7*l*. per fathom; and in the 75, 65, and 55 fm. levels it is of about the same value.

PROSPER UNITED.—John Nicholls, John Hall, William Glanville, May 28: The 100 east is producing some saving work for tin. The 100 west is unproductive. The 80 west is worth 5*l*. per fathom. The 70 east is producing saving work for copper. The Moor lode, in the 60 fathom level cross-cut, is not quite so good, but we expect it to improve again in a few days. The winze in the bottom of the 50 east is producing saving work for copper. The 50 west, on Pope's lode, is worth 5*l*. per fathom. The stopes are without change to remark on. There is no change in either of the cross-cuts. The machinery is all in good order, and working satisfactorily.

REDMOOR.—T. Taylor, May 28: We have trammed about 100 tons from the run in the back of the level. We have also stoped about 3 fathoms long and 3 fathoms high home to the run; so far the rise, or run, is about 5 feet long and 3 feet wide. We dare not go up in this rise, or run, for the stuff chokes, and dams the water, until it is broken away with great force; I should think that fully 10 tons were washed out to the cross-cut just now. As yet it is nearly all lode, profitable tinwork, with good stones of black ore. We want to get up to secure this black ore (at present we can only save the stones), and to secure the north side of the ground, for there must be a great hole somewhere. I have the place kept hot with men, and no more force can be put on.

ROARING WATER.—H. Thomas, May 26: There is very little change to notice in the cross-cut north of engine-shaft since last report. We are evidently in the elvan south of Grady's lode; the elvan seen at surface is fully 14 ft. wide, and it is probable we shall have to drive that distance in the cross-cut before we shall intersect the lode in the cross-cut south of engine-shaft; the ground is favourable for driving. We are frequently meeting with droppers of quartz, yellow copper ore, and mundic. The water from the end is considerably increasing, which may be considered a favourable indication that Smith's lode is near in this direction.

ROSECLIFF AND TOLCARNE.—Richard Pryor, May 27: The water is still increasing from the 50 east, towards the old mine, which has very considerably lessened the quantity coming through the 30. The ground in the end is rather spare for driving, in consequence of the water, but, judging from present indications, we think we are very near the lode. During the past week the 50 fm. level endmen, east on No. 4 lode, have been engaged in taking up the water from the 10 and 15 fathom levels, east of the old engine-shaft, the greater portion of which is coming from a cave a little below the adit level; when this is taken up there can be no doubt but that it will draw the greater part of the water coming through the 30, if not the whole. We have taken the 30 fathom level winze-men and put them to rise against the same in the back of the 50, which will be pushed on with all possible speed. The lode in the rise is 2 feet wide, composed principally of spar, with mundic and spots of lead. The ground is easy for progress, and no time will be lost in communicating the rise to the winze, which will give good ventilation.

ROSEWARNE CONSOLS.—John Nancarrow, R. Knuckey, May 26: We are making fair progress in sinking Sarah's shaft; the ore continues, and the lode is worth from 8*l*. to 10*l*. per fathom. The winze east of Sarah's shaft is worth 12*l*. per fathom, and the ore is lengthening. The ground in the 70 is improving, and we expect an improvement in the lode also shortly. The pitches look better than they did at the setting. We have sampled to-day 24 tons of copper ore, which has nearly all come from the caunter, and we expect a larger quantity next time.

SORTRIDGE CONSOLS.—R. Jackson, May 28: Hitchins's engine-shaft is down 9 fms. below the 140; the ground is favourable for sinking, and good progress has been made. In the 140, east of the engine-shaft, the lode is 2½ ft. wide, composed of spar, prian, mundic, and good stones of copper ore, and looking very promising.

SOUTH HERODSFOOT.—W. Goldsworthy, May 28: The engine-shaft is now about 13 fms. 1 ft. below the 86, the ground being a nite blue killas; and, should it continue as favourable as at present, we hope to complete the sinking for another level by the second week in June.

SOUTH CONDURROW.—J. Vivian and Son, W. Williams, May 23: We are making good progress in sinking King's shaft below the 82, but have nothing further to remark on since the last report. In the 82 east and west there is no alteration, the latter being still worth from 5*l*. to 7*l*. per fathom. There is no alteration in the character of the lode in the 71 east. In the 71 west we continue driving on the north part of the lode, which produces tinstone of low quality. In the 61, north on the cross-course, east of King's shaft, we have not yet met with any more lode. There is no change worthy of remark in the 61, west of King's shaft, or in the tin stope, which continues to open out a large lode, composed of better quality tinstone than we had at first. The 61, west of Vivian's shaft, is opening through a lode of the same favourable character for copper as when last reported on; and the stope in the back continues to produce 1 ton of good copper ore per fathom.—Middle Lode: In the 20, east of cross-cut, east of engine-shaft, no lode has been taken down. In the 30 east we are also driving by the side of the lode; and in the adit level we are clearing out the rubbish preparatory to driving.

SOUTH WHEAL GRENVILLE.—G. R. Odgers, W. Bennetts, May 23: The lode in the engine-shaft sinking below the 30 fathom level is 15 in. wide, composed of quartz, &c.; here the ground continues much the same as for some time past (elvan).

ST. JUST AMALGAMATED.—R. Pryor, Wm. White, R. Wearne, May 27: Saveall's Lode: The lode in the engine-shaft sinking below the 100, is worth 11*l*. per fathom. The lode in the 100, east of shaft, is worth 6*l*. per fathom. In this level, driving west of shaft, the lode has not been taken down in the past week, consequently there is no change to notice. The lode in the 90, driving east of shaft, is worth 5*l*. per fathom. The lode in winze sinking below this level is worth 5*l*. per fathom. In the 90, west of shaft, the lode is worth 4*l*. per fathom. The lode in the 76, driving west of shaft, is worth 7*l*. per fathom. The lode in winze sinking below the 62, west of shaft, is worth 5*l*. per fathom.—Owl Lode: The lode in the 40, north of Reddipper shaft, is worth 3*l*. per fathom. The lode in the 20, north of shaft, is worth 6*l*. per fathom. The lode in the 10, north of shaft, is worth 10*l*. per fathom. There is no change to notice in any other part of the mine.

TAMAR VALLEY SILVER-LEAD.—J. Goldsworthy, May 28: The surface work throughout the mine is in a farward state. The clearing of the adit level progresses satisfactorily. In clearing the adit, where we find the lode not taken away, it contains rich silver-lead ore.

TREREW.—May 25: On Saturday last the engine-shaft was set for another month at 15*l*. per fm.; it is now down 13 fms. 0 ft. 6 in. below the adit, and we hope to get it down for a 20 in about two months more; the ground is good and water moderately easy. We have set the cross-cut to drive at 3*l*. 5s. per fm.; the ground is improving.

VIGRA AND CLOGAU.—W. J. Holman, May 28: In the end of drivages east and west from No. 5 shaft, under No. 2 adit, No. 2 mine, the lode is in the former 6 ft. wide, and of good quality throughout; and in the latter 4 ft. wide, which is also well mineralised. The sinking of No. 4 shaft is progressing well; the lode in the bottom is 3¼ ft. wide, and of very fair quality. In the rise over the back of No. 1 level, east from No. 1 shaft, the lode is 4 ft. wide, and poor. The result of our costeaning work during the past week has been to lay open the back of the continuation of No. 2 lode, about 20 fms. west of the great cross-course, and 8 ft. south of the No. 2 band of greenstone, presenting at this point a most favourable appearance; the men are still further opening upon it. At the old Clogau Copper Mine no change has taken place to notice since my last report. The Jenny's adit at Vigra Mine is also the same. At the reduction works 16 heads of stamps are at work.

WEST BRITON.—W. Rosewarne, May 28: Wheal Strawberry Lode: The lode in the 42, west of the cross-cut, is 2 feet wide, producing stones of copper ore, and has a most promising appearance. The lode in the 42 end, east of the cross-cut, is at present smaller than usual, but we are expecting an improvement in this level, as we have good copper ore ground below the 20, about 16 fathoms east of the present 42 end. The lode in the end driving west of the 20 winze is worth 4*l*. per fathom. We have broken some excellent copper ore from these bargains the last few days, samples of which I have forwarded on to the office; this end is being driven at 45s. per fathom. The water is draining down in the western part of the mine, and we hope in a short time we shall be able to get down to the 10 in the Wheal Gooseberry, and that no long time will elapse before we shall be drained to the 42 at Wheal Strawberry Mine, when we shall be in a position to drive the levels under the productive ground left off at Wheal Gooseberry, as well as have available a long run of tribute ground, from which we shall be able to increase our returns.—Wheal Dumpling Lode: The lode in the 42, east of the engine-shaft, is 3 feet wide, producing good stones of copper ore in the bottom of the end. We expect an improvement by driving this end east towards the slide, about which there is a good lode gone down in the bottom of the 20. I am pleased to say the prospects are very much improved.

WEST CARADON.—Wm. Johns, N. Richards, May 27: We are making fair progress in sinking the winze in the bottom of the 170 in the cross-course. Allen's lode, in the 170, is without much alteration since last reported. The winze sinking behind this end, although we have a pretty deal of water to contend with, is down about 2 fathoms; the lode is about 1½ ft. wide, containing occasional stones of ore, a kindly lode. Jope's lode, in the 128 west, is still worth 8*l*. per fathom. The winze sinking below this level is about the same value. In the 116 the end is not altogether free from the elvan, but seeing the winze sinking a few fathoms in advance of this end in the bottom of the 104 is opening out moderate tribute ground, we are looking forward here for an early improvement. A stope in the back of the 128 west, on Clymo's lode, is worth 10*l*. per fathom. In the same level, east of cross-cut, so far this end has not turned out much ore to value. We are clearing and securing our 104 fm. level cross-cut as fast as possible, and hope to complete it by our next setting-day, to set a pare of men to work east on Dunstan's lode, which is about 7 fathoms deeper than the 114, coming back from Gonamena, where the present end is worth 2 tons of copper ore per fathom. We shall suspend the sinking of this level (114), in order to put the men to sink to get down an equal depth with our 104, which will enable us by all appearances to open out a piece of good ore ground. We have still in Marina's shaft a beautiful elvan, which is down about 10 fathoms below the 20; we purpose sinking through the elvan before cross-cutting to the side lodes.

WEST GODOLPHIN.—J. Vivian and Son, John Pope, jun., May 26: Caunter Lode: In the footway shaft, cutting down below the shallow adit level, and down about 8 fathoms, the lode is 2 feet wide, worth 8*l*. or 9*l*. per fathom for the length of the shaft (9 feet). There is no aiteration in any other part of the mine since last report.

WEST GREAT WORK.—S. J. Reed, May 27: There is no particular change in the character of the lode in the 50 east or west of flat-rod shaft; we expect soon to reach the main dip of tin. In the 40 the Great North lode has further improved; now worth 14*l*. per fathom. Two stopes in back of this level are worth 9*l*. per fathom. In the 30 east the lode is 1¼ ft. wide, worth 5*l*. per fathom, and the stope in back 6*l*. per fathom. This lode in the 20, east and west, has not materially changed since my last letter. The stope in the back is worth 8*l*. per fathom. In the 8, at Watson's shaft, the lode in the end is 3½ ft. wide, worth 15*l*. per fathom. The rise in back of this level is worth 18*l*. per fathom. At Harvey's shaft we have had an increase of water, and the men are put to rise against this shaft in the back of the 8, where the lode is large, and producing stones of tin. The lode in Barn shaft is worth 8*l*. to 10*l*. per fathom.

WEST MARIA AND FORTESCUE CONSOLS.—William Skewis, J. Donnal, May 26: Capel Tor Lode: In the 20, east of new shaft, the lode is 2 feet wide, composed of capel, mundic, and copper ore, saving work—a promising-looking lode.—West Maria Lode: No lode has been taken down in the 60, east of Maria engine-shaft, for this month. The lode in the 50 east is 5 feet wide, and again worth full 35*l*. per fathom. There is a considerable increase of water in this end, which we look upon as being favourable for the continuation of a good lode. The lode in the new stope in the back of this level is worth 20*l*. per fathom. The lode in No. 1 stope is poor and suspended. In No. 2 stope the lode is worth 6*l*. per fathom. The lode in the winze sinking in the bottom of this level is 3 feet wide, worth 6*l*. per fathom. There has not been any lode taken down in the 40 east for this month, but there are strong indications (where the lode is seen on the north side) of an improvement when next taken down, and which we intend doing next week; the lode in the stope in the bottom of this level is worth 6*l*. per fathom.—New Shaft: The new shaft is sunk 11 fms. 4 ft. below the 20, and which is to within 2 feet of the required depth to meet the 30, east of Maria engine-shaft; the sinking will be continued this month, after which we intend to cut plat, &c., and then cross-cut to both the West Maria and Capel Tor lodes.

WEST PRINCE OF WALES.—W. C. Cock, May 26: We have so far completed the 11-in. drawing-lift in the north engine-shaft, that we shall have it to work this evening, and are getting on as fast as possible with the fixing of the drawing machine. We have no change in the south engine-shaft. The men have been chiefly employed at capstan at the north shaft during the week.

WEST WHEAL TOLGUS.—May 27: Taylor's sumpmen are getting on pretty well in sinking Taylor's engine-shaft and cutting cistern and trip-plats below the 95. The lode in the 95 east is over 6 ft. wide, producing 8 tons of ore per fathom, worth 40*l*. per fathom. In the 95 west the lode is 4 ft. wide, with a little more spar mixed up in it than when last reported; not got off the influence of the cross-course; the lode is worth 35*l*. per fathom. The lode in the 85 west is 4 ft. wide, unproductive. In the 85 east the lode for 5 ft. wide is producing 6 tons of ore per fathom, worth 25*l*. per fathom. The lode in the 75 west is 4 ft. wide, producing good stones of ore. In the 65 west the lode is 3 ft. wide, worth 6*l*. per fathom. The lode in the 50 west is 20 in. wide, unproductive. We have four stopes in the back of the 85 working by 24 men, three of which are worth 15*l*. per fathom, and the other 25*l*. per fathom. We have also two stopes working over the back of the 75, worth 14*l*. per fathom. The lode has not been taken down in Richards's shaft since last reported; the men are making pretty good progress in sinking.

WEST WHEAL TREMAYNE.—S. Roberts, May 26: No change since last week in either lode or ground. We have cut holes through the lode in different places, and find it produces copper ore, but not so good in the east as the west of the shaft. We are thinking to take it down the latter part of the week.

WHEAL AGAR.—E. Rogers, May 27: Setting Report: The engine-shaft to sink below the 110, by six men and three boys, at 33*l*. per fathom; the lode in the shaft is improving, now producing good stones of rich copper ore. We propose to sink about 2 fathoms deeper before we cut plat or open on the course of the lode. The flat-rod shaft to sink below the 150, by 12 men, at 55*l*.; the ground is not only hard, but difficult to break. A cross-cut to drive north, in the 150, by two men, at 9*l*. per fathom. The 150 is for the time suspended, until drained by a deeper level, when it can be driven for half the present cost; the lode in the end is worth 6*l*. per fathom. The 140 fathom level to drive east, by two men, at 7*l*. per fathom; the lode is of no value. A winze in the bottom of this level, 8 fms. before the 150 fm. level end, to four men, at 4*l*. 10s. per fm.; the lode is worth 5*l*. per fathom. The 110 to drive east of engine-shaft, by two men, at 5*l*. per fathom; the lode is at present small. We have also eight men working on tribute, varying from 10s. to 13s. 4d. in 1*l*. We sold, on Thursday last, 202*l*. 10s. worth of tinstuff.

WHEAL BULLER.—J. Inch, J. Brown, May 27: Last Friday being our setting-day, we set the following bargains:—The 92 to drive east of Stevens's shaft, by nine men, at 12*l*. 12s. per fm,, worth for tin 25*l*. per fm. A stope in this level to strip down on the south part of the lode, by three men, at 6*l*. per fm., worth for tin 12*l*. per fm. A stope in the 80, east of this shaft, to six men, at 6*l*. per fm., worth 15*l*. per fm. A stope west of this shaft, under the 80 fm. level, to six men, at 5*l*. per fm., worth 15*l*. per fm. The 50 to drive east of this shaft, by four men, at 7*l*. 10s. per fm.; the lode in this end is producing ½ ton of copper ore per fm.—Hocking's Shaft: The 80 to drive east on the north lode, by four men, at 10*l*. 10s. per fm.; the lode in this end is large, and producing stamping work for tin. The 80 to drive east of this shaft, on Stevens's lode, to four men, at 10*l*. 10s. per fm.; this end is producing stones of copper ore. The 80 fathom level to drive west on this lode, to four men, at 10*l*. 10s. per fathom; this end is producing stones of tin. A stope under the 70 fathom level, west of this shaft, on the north lode, to six men, at 6*l*. 10s. per fathom, worth for tin 10*l*. 10s. per fathom. Two stopes under the 60 fm. level, east and west of Knuckey's winze, to six men in each, at 5*l*. 10s. per fm., each worth 12*l*. per fathom. Our tribute pitches are looking just as well as they have for some time past. During the last month we have taken up all the pitwork in Kistle's shaft, and 60 fms. in Whitford's shaft. We have also taken down the capstan and shears, balance-bob and so forth, removed and fixed the same at Hocking's shaft, and are getting on as fast as possible with the necessary work for sinking the same.

WHEAL CREBOR.—J. Gifford, May 25: On Saturday the following bargains were set:—The 120 east to drive by six men, stent 2 fathoms, at 8*l*. per fathom; lode 2½ ft. wide, composed of capel, quartz, and peach, with spots of mundic and copper ore intermixed. The 120 west to drive by six men, stent the month, at 5*l*. per fathom; nothing more seen on the lode at this point since reported for the meeting. The 96 fm. level cross-cut south to drive by four men, stent the month, at 5*l*. 10s. per fathom.—Tribute: R. Davis's pitch, in the bottom of the 96, and back of the 108 east, by four men, for two months, at 12s. 6d. tribute and 12s. 6d. per produce; the takers bound to drive 3 fathoms in the 108, west of the cross-cut, at 2*l*. per fathom; the lode is 3 ft. wide, yielding 2 tons of copper ore per fathom, worth 9*l*. A. Bray's pitch, in the back of the 84 east, by two men, for two months, at 11s. 6d. tribute and 12s. 6d. per produce. W. Clemens' pitch, in the back of the 84 east, by two men, for two months, at 9s. tribute and 12s. 6d. per produce; in this pitch I believe the main part of the lode is standing south of the 84, and I intend to put two men to cross-cut south, in order to prove it: the cost would not exceed 12*l*.

WHEAL CRELAKE.—Wm. Skewis, W. Hooper, May 27: The winze sinking below the 62 west is communicated to the rise in the back of the 74, and the men put to make the necessary preparations for the driving of the 86 west. In the 62 west there are several branches of spar, intermixed with mundic and copper ore, but not to value; we have thought it advisable to remove the men from the 50 fm. level end for the present to the 86 west. The lode in the 40 west is 3 ft. wide, containing capel, mundic, and copper ore, worth 8*l*. per fathom. The lode in the rise in the back of this level is 1½ ft. wide, yielding saving work for copper and mundic ores. There has not been any lode taken down in the 28 west during the past week. Nos. 1 and 2 stopes, in the back of this level, are rather fallen off in value, now worth 5*l*. to 6*l*. per fathom. All the other stopes are without change to notice.

WHEAL FRIENDSHIP.—May 25: Bennett's Lode: The lode in the 170, west from flookan cross-course, is 3 ft. wide, and will yield 1 ton of good ore per fm. The lode in the rise in the back of the 170 is 2 ft. wide, composed of spar, mundic, and a little ore; we expect to communicate to the winze under the 150 by the end of another month. The lode in the winze sinking under the 150 is 2½ ft. wide, composed of spar, mundic, and a little copper ore. The lode in the 150, driving west from Whitburne's cross-cut, is 2½ ft. wide, composed of spar, peach, prian, mundic, and copper ore, producing of the latter ½ ton per fathom; at this point we expect an improvement shortly. The stopes in the back of the 150, and in the bottom of the 140, will yield 1 ton of good ore per fathom.—Main Lode: The stope in the bottom of the 70 will yield 1 ton of ore per fathom. Three stopes in the back of this level will average 1½ ton of ore per fathom. We have not cut any lode in any of our cross-cuts since last report; the one driving north from the south lode at the 40 is now getting near the point where we calculate to intersect the main lode. The cross-cut driving south from Curtis's shaft, at the 80, is without change. Tribute pitches without change.

WHEAL GRENVILLE.—G. R. Odgers, W. Bennetts, May 23: The men are making progress with the sinking of the new shaft below the 130. The lode in the 130 west is 2½ feet wide, containing quartz, gossan, &c., with a little tin—a kindly lode. The lode in the 120 west is 3 feet wide, composed of quartz, &c., producing good work for tin, worth 20*l*. per fathom—a good lode; this is laying open tinny ground. In the 110 fathom level cross-cut south the ground continues good; we have not yet met with any lode, but we can hear the men distinctly working, hence we hope shortly to meet with the lode. The lode in the 100 west is 3 to 4 feet wide, and worth for tin 12*l*. per fathom. No lode has been taken down this week in the 90 east. The lode in the 90 west is 2 feet wide, and producing good work for tin—worth 8*l*. per fathom. This is also laying out good tribute ground. The lode in the 80 west is 4 feet wide, and worth 8*l*. to 10*l*. per fathom. The pitches are yielding their usual quantity of tinstuff.

WHEAL KITTY (St. Agnes).—W. Teague, W. Polkinghorne, S. Davey, May 23: New Shaft, Pryor's Lode: In the 94, driving south, we have cut through the lode mentioned in our last week's report, and find it to be 2 ft. wide—a splendid lode, and worth for tin 40*l*. per fathom; this looks well for the future prospects of the mine. Nothing new has taken place in any other bargain throughout the mine since our report for the quarterly meeting.

WHEAL KITTY (Uny Lelant).—Wm. Rosewarne, May 28: South Russoe Lode: The lode in the boundary shaft, sinking below the 40, is worth for the length of the shaft (9 ft.) 10*l*. per fathom. The lode in the 40 east is worth 5*l*. per fathom. The lode in the 40 west is worth 6*l*. per fathom.—North Russoe Lode: The lode in the 160, east of Bolitho's winze, is worth 6*l*. per fathom. The lode in the 160, west of Bolitho's, is worth 5*l*. per fathom. The lode in the 150, east of Bolitho's, is worth 4*l*. per fathom. The lode in No. 4 winze, sinking below the 140, is worth 4*l*. per fathom. The lode in the 110, east of the cross-cut, is producing stamping work.—North Gowan Lode: The lode in Bolitho's shaft, sinking below the 10, is worth for the length of the shaft 10*l*. per fathom.—New Lode: The lode in the 140 fm. level, east of the cross-cut, is producing stamping work. The other places without change to notice.

WHEAL MARY FLORENCE.—W. Verran, W. Johns, May 27: Having fixed the necessary pitwork, footway, &c., the shaftmen will now resume the sinking of Saw's shaft, and we hope there will be no let or hindrance until we reach the proper depth for another level—25 fathoms below the deep adit, at which depth we anticipate good results. In driving west at the 15 fm. level, we find the lode maintaining its character both for size and productiveness, and expect an improvement as we approach the lead lode, and also to the west of the same, having had a long run of productive ground in the adit in that direction. By a vigorous prosecution of the points now in operation we have no doubt of opening up a productive mine, and when a communication shall have been effected between the 15 and the deep adit additional hands can be employed to advantage, either on tutwork or tribute, as may be thought advisable.

WHEAL SPARNON.—Wm. Tregay, May 23: Belfry Shaft: The lode in the 15 east is large, producing stones of copper and tin ores, and is promising for improvement.—Old Sump: The water now being below the 30, we can proceed to prove the north lode at this level; for this purpose it is necessary to clear a short distance of this level (now filled) for ventilation.

WHEAL UNY.—S. Coade, M. Rogers, May 23: There is no change of importance to report on this week. The 140, east of engine-shaft, is the same in value as last week. We have sold to-day 13 tons 6 cwts. 0 qrs. 26 lbs. of black tin to Messrs. Daubuz and Co., at 54*l*. 17s. 6d. per ton.

FOREIGN MINES.

THE MARIQUITA MINING COMPANY (Limited) have received advices, of which the following is an extract:—Santa Ana Mines, April 20: The new shaft was sunk in March 7 ft. Mr. Treffry writes—"I hope by the next mail to be able to inform the board that I am making returns by amalgamation. Bull's lode is improving as we extend upon it, and to the supply from thence I look for a considerable addition to our produce."—Marmato Mines for the month of March: Cost, $11,922; returns, 9948. The superintendent writes, under date April 6—"There is an increase in the amount of returns as compared with the month of February, caused principally by the more abundant supply of water; but the increase is only 2 lbs. 1 oz. 1 dwt. fine gold, as the repairs to the San Jorge acquia were completed only on the 19th of the month, when the additional supply of water was brought into the mills.—Aguas Claras for the month of March: Cost, $3191; returns, $6121 (in export ore).

UNITED MEXICAN.—April 22: Mine of Jesus Maria y Jose: This msne has continued giving buscone and hacienda ore, much on the same scale as in the previous months. In the deep workings little has been done, as the water has been very troublesome in the pozo de guia, and during the feast days in the Easter holidays workmen have been disinclined to exert themselves, and as new pumps are required some are being made, and we hope then to get on better. The sales by buscones for the four weeks ended April 16 amounted to $56.9. The accounts for the month of March, owing to raspas received from Duran and Casas Blancas, show a profit of $3205. The quarter's accounts, however, ending on March 28, show a loss of $6991; but in the first quarter of the year we have heavier expenses than in the subsequent terms, as we stock ourselves with stores for the rainy season.—Mines in the Guadalupe de la Oscura district: In El Carmen the buscones in small number are at work, and we divide the ore with them. In a few days I purpose having the mine's share dressed and brought to the hacienda of Duran. The El Oro shaft is secured and cleared down to the communication with El Progreso. Next week I hope to get to work on the water in the shaft, which will not be a heavy job, because instead of raising it to the surface it will be emptied into El Progreso, and run thence to the adit of El Carmen. We can only measure down in El Progreso about 10 metres of water in the shaft; it may contain much attle (rubbish), and be deeper, but I think a few weeks' work will lay open all the lower workings of this section of the mine. In the mouth of El Patrocinio we are approaching the part of the mine where good ore has made below, and on which we had difficulty in working upwards. In Encinillas itself no work is going on, as the amount to which I have limited the weekly expenditure will not allow of work being carried on simultaneously in so many different parts of the concern.

DON PEDRO NORTH DEL REY.—Mr. F. S. Symons sends the following telegram through the company's agents:—Lisbon, May 28—Produce to May 2, 13,500 oits.; estimated produce for April, 15,500 oits.

FRONTINO AND BOLIVIA.—Mr. Rouch, April 15: Medellin: The mining operations are looking better in all quarters. At Bolivia two new mills (each 12 heads of stamps) would be put to work early in May, one of them upon a new and very promising lode, the Chorro, and the other in Juan Criollo. The new workings are now opened in good ground in Maria Dama and Juan Criollo, and the two or three last days in last month gave about ½ lb. (Spanish) of gold daily from each of those places. The Frontino Mine has improved, and has given just as much gold during an excessive drought as it had done formerly, when water abounded. Mr. Rouch speaks of putting up some rotating buddles, for separating some valuable minerals which have been hitherto rejected. The total return of gold from both places was 202 ozs. troy. The produce of the stuff crushed at Maria Dama had improved, the last 50 tons passed through the stamps yielding 46½ ozs. of gold.

GONNESA.—R. W. Rickard, May 4: San Giovanni Mine—Lead Section: The 30 metre level, west of Caroline's shaft, was lengthened 6 metres during the month, through ground that yielded ¾ ton of ore per fathom. The present end of this level is very promising, and yields 1½ ton of ore per fathom. The eastern end of the level was extended 7 metres through unproductive ground. Taylor's level was driven west 7 metres in April, through ground that yielded 2¾ tons of ore per fathom on an average. The present end yields 1½ ton per fathom. The eastern end of Taylor's level has been unproductive during the month, although driven over 6 metres. Victor Emanuel level east was driven 8 metres during the month, through ground that produced only occasional stones of ore. The same level west was extended 6½ metres in orey ground, the average yield of which we estimate at ¾ ton of ore per fathom. The large crevice or grotto cut into by the San Angelo cross-cut has been explored; it is 31 metres in length and 26 in width, extending 16 metres above and 18 metres under the level. The roof, sides, and bottom of this grotto are covered with a thick incrustation of lime of different colours, with stalactites and crystals of different forms and sizes, and present a most striking and beautiful appearance. We have now begun to cut through the crust, and hope in a few days to be able to inform you of having entered orey ground in this very interesting part of the mine.—Calamine Section: The ore seems to maintain its quality, and is also quite as abundant in depth as it was at and near the surface. The weather being favourable for open workings, we have worked without interruption in this as well as in all the other calamine mines the month through.—San Giovanneddu Mine, Lead Section: The No. 2 lode was driven on at the 30 metre level, west of shaft, 14 metres during the past month, in ground that yielded only occasional stones of ore. The Nicolay level was extended west on the No. 1 lode 6 metres, in productive ground, the average yield of which we estimate at 2 tons per fathom. Calamine Section: There is nothing new to report on in this part of the mine. On the whole, the deposits are turning out well.—Monte Cane Mine: About the regular number of tributers have been employed in this mine during the past month, at an average tribute of 114·50 f. per ton of 75 per cent. ore (lead). The pitches throughout are as good as they have been for several months. The

calamine lodes in this mine are small, but the ore is of excellent quality. Six men only are employed in raising that ore in this mine.—Gonnesa Dressing-floors: We have been very much limited in our supply of dredge ore to these floors during the past month, also consequently have not been able to work regularly. This month, however, we hope to be able to have a greater number of carts to carry from the mines, and work in a more satisfactory manner our dressing machinery.—Gonnesa Calcining Establishment: Our workpeople are becoming better acquainted with calamine than formerly, consequently we are able to get the work much more perfectly done. We have kept two furnaces going during the whole month, and the third for about 25 days. We anticipate no difficulty in being able to keep the whole of them going all this month.—Acqua Resi Mine: The deposit, or rather lode, of calamine at St. Georgio is turning out very satisfactorily, and promises us a full supply of good ore for our calcining furnaces for years. We have kept one furnace regularly going here all the month, and the other was only idle for four days to be repaired.—Gutturu Pala Mine: The deposits of calamine in this mine are of excellent quality, and more extensive than we formerly had a right to expect, as they open out in every direction as they go down. We are raising at the rate of about 300 tons of ore per month here.

CAPULA.—Capt. Paull, April 26: The nett proceeds from the silver (228 marcs 6 oz.=1830 ozs.) of torta No. 2, beneficiated at San Cayetano hacienda amounted to $1929 08 c. I expect that torta No. 3 will be washed next week, and, from what the Englishmen have broken, we shall soon have another ready. I am sorry to say the barreteros still hold out, but, from a letter I received from some of them this morning, it appears they are all willing, with the exception of two, to work on the tenth part of the metal, and some are willing to work on testajos without any part of the metal. I really think everything will be settled this week. Should we get them to work without the partido system it will be a very great advantage to the company. I did not expect they would have stood out so long. As soon as they resume working we shall be able to make up for lost time, as being poor they will work all the week. There is no alteration in San Jorge stopes where the Englishmen have been working since my last. We are going on with the works of San Juan hacienda, and should we once get peace and security of property it would be very advantageous, especially for the low ley ores.

CAPE COPPER.—J. Williams, April 11: The sumpmen during the past month have been cutting plat and driving west in the 10; they will still be engaged in driving the 10 west, and doing other necessary work, such as putting in dividings and casing whim-shaft, &c., for April. Re-set, April 1, to three men and six labourers, at 30*l.* per fathom, for 2 fathoms, or the month. The 10 has been extended from No. 3 winze during the past month 2 fms. 4 ft. 10 in. towards the end driving west from engine-shaft. Re-set, April 1, to three men and six labourers, at 26*l.* per fm., for 3 fms. or the month. Job's level, driving east and west from south level, has been extended 2 fms. 4 ft. 7 inches, east 4 ft., and west 2 fms. 7 in., through ground that will yield about 4 tons of ore per fm.; there would have been more ground opened in this end had it not been that we were obliged to take these men to repair the tramroad in the incline tunnel, also to put in a new tramway in the south level, and to cut down some ground in places for the wagon to pass. Both ends, east and west, are looking well, and are promising for further improvement. We have been driving on a regular, well-defined wall, underlying south about 3 ft. in 6, which holds good for the whole distance explored—4 fms. 7 in.; re-set to three men and three labourers, at 14*l.* per fm. for 5 fms., or the month.—North Level: This level has been extended north during the past month 1 fm., without any material change to notice; these men during a part of the month were employed in the place of some who had left in the early part of the month, who had been long stoping in the pit. There are plenty of native labourers now to supply their place, and they will now resume the driving of this end; re-set, April 1, to two men and two labourers, at 10*l.* per fathom. The mining operations during the past month have proved to be very satisfactory. March extracts, 600 tons of 32⅓ per cent.

FRONTINO AND BOLIVIA (SOUTH AMERICAN) GOLD MINING COMPANY.—It will be seen by the advices just received (which appear in another column), that the operations at the various mines are progressing satisfactorily; that at Bolivia two new mills (each of 12 heads of stamps) would commence working early in May, one upon a new and very promising lode (the "Chorro") and the other in "Juan Criollo." The new workings are now opened in good ground in "Maria Dama" and "Juan Criollo," and the two or three last days in the month gave about ¼ lb. (Spanish) of gold daily from each of those places. The Frontino Mine has also improved, having given just as much gold during the last two months, during an excessive drought, as it had done formerly, when water abounded. Mr. Rouch speaks of putting up some rotating buddles for separating some valuable minerals which hitherto have been rejected. The total return of gold from both places was 232 ozs. troy. The produce of the ore crushed at Maria Dama Mine had improved, the last 51 tons passed through the stamps yielding 46¼ of gold, while the produce of the last six days' stamping at the Frontino Mine had also improved to ¾ oz. of gold per ton. The company's bankers at Medellin (Messrs. Restrepo and Sons) write, under date April 13, that Mr. C. Grieff informed them in his letter of March 28 that the company's mines are now in a good condition, and that the daily yield of the "Juan Criollo" Mine is 50 castellanos (about 7 castellanos to the ounce troy), and of the "Maria Dama" Mine from 50 to 60 castellanos. If this continues the remittance will be a good one.

CHONTALES.—As some misapprehension appears to exist with regard to some statements made by Mr. Belt, and referred to in last week's Journal, it is necessary to state that Mr. Belt's references to the present condition of the lode in the ends of the bottom levels at San Antonio Mine applies only to the new mine, and more particularly to the effect it would have upon the supply of ore to his stamps from these levels unless they improved, but that in no way affects the pillars in the old mine, many fathoms west, yet untouched, and from which he will be enabled to take away large quantities of good percentage stuff for the immediate supply of his stamps. In the meantime the bottom ends in New San Antonio Mine may improve, and open out a large mine in connection with the old one. The same applies to the Consuelo Mine.

DEVELOPMENT OF THE SALT TRADE IN FRANCE.—A recently-discovered deposit of rock salt, situated near Dax, in the Department of the Landes, is about to be developed by the West of France Rock Salt Company. It is stated that salt being in France protected by a high rate of duty the trade is comparatively a monopoly, and salt being a necessity of life the trade affords the double advantage of large special profits combined with a certain and growing consumption. The purchase-money is fixed at 36,000*l.* for the concession alone; the cost of purchase of land and erection and establishment of works is estimated at 64,000*l.* more, and it is proposed to provide a floating capital of 20,000*l.*=120,000*l.* in all. The salt was first discovered by borings made close to the ramparts of the town of Dax. On that occasion the Chief Government Mining Engineer, in his official report to the Prefect, states that "a first layer of salt had been pierced of 15 metres (nearly 50 feet) thick." This first layer was subsequently proved to overlie a second one, being only separated from it by a thin layer of saliferous clay. A shaft has been sunk on the spot, and the above-named second layer of salt has been reached. A fresh boring has been executed at about one mile from the first, due south, and within the limits of the concession. Here several layers of rock salt have been pierced, of a total thickness of 131 ft.; in fact, the part of the concession now proved to contain salt will furnish about 200 millions of tons, for all practical purposes an inexhaustible quantity.

THE COPPER TRADE.—Messrs. Vivian, Younger, and Bond (May 29) write—Transactions in Chili produce have been but few this week; about 60 tons Urmenta ingots were done at 79*l.* 10s., and 270 tons spot and to arrive at 80*l.*; 150 tons bars were reported as sold at 76*l.* 10s. to 77*l.* The charters advised by mail from Valparaiso comprise 500 tons in bars and ingots, and 600 tons of fine copper in ores and regulus. A fair quantity of Australian and English copper has changed hands, at last week's rates. There are some signs of a renewed demand for India, both for sheets and tiles. The market closes quiet, but firm.

VALPARAISO, APRIL 16.—During the past fortnight our market continued active. Copper produce was in good demand at advanced prices. About 29,000 quintals bar and ingot copper have been disposed of; prices have advanced 25 c. per quintal on shore. Favourable news received from England by this mail caused prices to advance further, and holders are firm to-day at $14 50 c. on shore here, and ask $15, free on board, on the coast for bars. We have only one sale of regulus to mention, of 13,600 quintals, which was made at $6 31½ c. per quintal of 50 per cent. scale, 16 c. free on board in Carrizal. There are other lots in the market, but holders are unwilling to sell for the present. In ores we have not heard of any transactions for export; there are small lots in the market, for which holders are asking $3 per quintal of 25 per cent. scale, 15 c. free on board, but there are no purchasers at this price. Copper produce from the coast to Liverpool to Swansea, 3*l.* 2s. 6d. to 3*l.* 5s.; bar copper from this Bay to Liverpool as dead weight, 2*l.* 5s.

DANGER SIGNALS IN COAL MINES.—At the Oldham Police Court, William Lees was charged with a breach of the special rules of Messrs. Mayall and Seddon's Colliery, Lower Moor. It appeared that on Friday morning James Allcock, the fireman, inspected the workings at the colliery, and, having discovered the presence of gas in the upper level, he put up two signals marked "Fire," as a warning to parties going into the mine. In the forenoon Mr. Dickinson, the Government Inspector, visited the colliery, and when he went into the workings it was discovered that the signals had been removed, and some men were working in the level. The defendant was now charged with removing one of the signals, a spade. He and seven others had on Thursday night some misunderstanding with Mr. Seddon, which resulted in their leaving or being discharged. On Friday morning, after the signals had been put up, the defendant and others descended the pit to remove their tools; and, as the spade on which the word "Fire" was written in chalk belonged to the defendant, he brought it away with him. The bench said there was manifestly great want of proper caution on the part of the colliery owners in not having proper signal boards, and they dismissed the case on the grounds that the spade belonged to the defendant, and that at the time in question he was not in the employment of the complainants, and, therefore, not one of "the work-persons" to whom the special rules were applicable.

The Mining Market; Prices of Metals, Ores, &c.

METAL MARKET—LONDON, MAY 29, 1868.

COPPER.	£	s.	d.	£	s.	d.
Best selected..p. ton	83	0	0-	85	0	0
Tough cake and tile	81	0	0-	83	0	0
Sheathing & sheets.	84	0	0-	85	0	0
Bolts	83	0	0-	—		
Bottoms	88	0	0-	90	0	0
Old (Exchange)	70	0	0-	—		
Burra Burra	84	10	0-	85	0	0
Wire.....per lb.	0	1	0-	0	1	0¼
Tubes	0	0	11½	1	0	

BRASS.	Per lb.
Sheets .....per lb.	9d.-10d.
Wire ..... „	8½d.-9¼d.
Tubes ..... „	10½d.-11d.
Yellow Metal Sheath.p. lb.	7½d.-8d.
Sheets ..... „	7 d.-7¼d.

SPELTER.	Per ton.
Foreign on the spot.	£20 10 0-20 12 6
„ to arrive ..	20 10 0-20 12 6

ZINC.						
In sheets	£26	0	0-	—		

TIN.						
English blocks			98	0	0	
Do., bars (in barrels)			99	0	0	
Do., refined.....			101	0	0	
Banca			96	0	0	
Straits			92	0	0	
TIN-PLATES.*	Per box.					
IC Charcoal, 1st qua.	1	6	0-	1	8	0
IX Ditto, 1st quality	1	12	0-	1	14	0
IC Ditto, 2d quality..	1	4	0-	1	5	0
IX Ditto, 2d quality..	1	10	0-	1	11	0
IC Coke.....	1	2	0-	1	3	0
IX Ditto	1	8	0-	1	9	0
Canada plates, p. ton..	13	10	0-	—		
Ditto, at works	12	10	0-	—		

IRON.	Per ton.					
Bars Welsh, in London	6	2	6-	—		
Ditto, to arrive	6	2	6-	—		
Nail rods	6	15	0-	7	0	0
„ Staffd. in London	7	7	6-	8	10	0
Bars ditto	7	5	0-	9	10	0
Hoops ditto	8	2	6-	9	15	0
Sheets, single.....	8	15	0-	11	0	0
Pig No. 1, in Wales..	3	15	0-	4	5	0
Refined metal, ditto..	4	0	0-	5	0	0
Bars, common ditto..	5	10	0-	5	15	0
Do. mrch. Tyne or Tees	6	10	0-	—		
Do., railway, in Wales	5	10	0-	5	15	0
Do., Swed. in London.	10	0	0-	—		
To arrive	10	0	0-	—		
Pig, No. 1, in Clyde..	2	12	6-	2	16	6
Do. f.o.b. Tyne or Tees	2	9	6-	—		
Do. Nos. 3,4, f.o.b. do.	2	6	6-	2	7	0
Railway chairs	5	10	0-	5	15	0
„ spikes 11	0	0-12	0	0		
Indian Charcoal Pigs, in London, p. ton..	7	0	0-	7	10	0

STEEL.	Per ton.					
Swed., in kegs (rolled)..	14	5	0-	—		
„ (hammered)..	14	15	0-15	0	0	
Ditto, in faggots	16	0	0-	—		
English, spring	17	0	0-23	0	0	
QUICKSILVER (p. bottle)	6	17	0-	—		

LEAD.	Per ton.					
English Pig, com.....	19	7	6-	—		
Ditto, LB.....	19	12	6-	—		
Ditto, WB	21	5	0-	—		
Ditto, sheet.....	20	5	0-	—		
Ditto, red lead	20	15	0-	—		
Ditto, white	27	0	0-30	0	0	
Ditto, patent shot....	22	10	0-22	15	0	
Spanish.....	18	15	0-19	0	0	

* At the works, 1s. to 1s. 6d. per box less.

REMARKS.—The cheerful and delightful weather we have enjoyed during the present month may very appropriately represent the pleasing and satisfactory change which has, during the last week or two, taken place in business generally, and particularly in the Metal Market, and it is gratifying to find that the improvement already noticed still continues, and that business is now in a much more active condition than it has been for months past, and, moreover, that there appears every reason to expect that the present movement will continue and increase. Business in one branch of the metal trade has, to some extent, been impeded by the continuance of the strike among the puddlers in Staffordshire, which prevents orders from being executed, and in all probability hinders some orders from being given out, as there appears no absolute certainty when the men will return to work, and orders be enabled to be completed. It is much to be regretted that some means cannot be devised by which these deplorable strikes, so injurious to all parties, should be prevented, and some plan established, with the consent of masters and men, by which a scale of wages regulated by the condition of the trade, and the general state of business doing in the market, and thus fair and equitable to both parties, should become the rule. This would entirely obviate the necessity of either strikes on the part of the men or lock-outs on the part of the masters, and prove a boon to all engaged in the iron trade. Recent intelligence from America confirms the hopes entertained as to the result of the impeachment of President Johnson, the Senate having acquitted him on the second and third articles of impeachment, and, without voting upon the other articles, have adjourned *sine die*. This is virtually an entire acquittal, as all the charges are contained in the three articles already voted upon. We sincerely rejoice, for the sake of the people of America themselves, that such has been the conclusion of the trial. The state of business with the United States continues to be satisfactory.

COPPER.—The advices from Chili show the charters for England during the fortnight to have been 1110 tons, consisting of 415 tons bars, 135 tons ingots, 430 tons regulus, and 130 tons ore. Chili ingot has been sold at 80*l.* The market generally continues rather quiet.

IRON.—In Staffordshire some of the ironmasters are receiving rather more orders, but many have gone elsewhere, owing to the puddlers' strike. The men are, however, gradually resuming work, and some of the leading establishments are now at least in partial operation. Pig-iron is accumulating on the hands of the makers, owing to the diminished consumption at the works. In Welsh the amount of business doing is much about as usual, and the nail mills are, as a rule, employed about two-thirds time. In pigs there is a fair business doing, with prices rather firmer. In Swedish iron a little more enquiry has arisen, but sales are still rather limited. In Scotch pig-iron the market has remained very steady during the week, and very little fluctuation has occurred in prices. The last price received from Glasgow being 52s. cash.

LEAD.—A very fair business still continues to be done, and sellers are very firm at the quotations.

TIN.—The market for Straits has been very inactive during the week, and but few sales have taken place; those which have occurred, however, have been at reduced prices, and business has been done at 92*l.* 10s. cash, and more recently at 92*l.* cash, which may now be considered the quotation.

SPELTER has somewhat improved, and the market has assumed a firmer tone, business having been done for parcels on the spot at 20*l.* 10s., and more recently at 20*l.* 12s. 6d., and holders are still looking for better prices.

TIN-PLATES.—There has been a slight addition to the purchases by American houses, and the lull which has been experienced in the trade is likely soon to pass away.

STEEL and QUICKSILVER without alteration.

The settlement of the fortnightly account in the MINING SHARE MARKET took place on Friday, and was not by any means heavy, while business transactions for cash or for the next account have also been exceptionally dull, and prices in most instances have given way in the absence of *bona fide* buyers and the pressure of force sales. On the Stock Exchange business has been exceedingly brisk in foreign and other stocks, which, as investments, can in no way compare with several of our best dividend mines, nor, as speculations, with many of our best progressive properties. The continued fall in the standard for copper ore, which was down again 1*l.* 2s. on Thursday, has, no doubt, its influence on the market, and is difficult to understand, except as the working of a huge monopoly, in the face of more active business in markets for metals generally.

The mines mostly dealt in since our last have been Prince of Wales, Chontales, West Chiverton, Chiverton Moor, Marke Valley, West Frances, Providence Mines, Wheal Emily Henrietta, East Caradon, East Grenville, Wheal Grenville, Great Laxey, Frontino and Bolivia, and a few others, but in none to any great extent. West Chiverton shares have been flat, and leave off 63½ to 64½; at the meeting yesterday a dividend of 2*l.* (6000*l.*) for the quarter was declared; and the mine, we understand by telegram, is looking well. The accounts have not yet reached us. Wheal Kitty (St. Agnes) shares have been in request, at 2½ to 2¾; Pryor's lode, in the 94, at the new shaft, has been cut through, worth 40*l.* per fathom, which looks well for future prospects. Prince of Wales shares have been flat, and leave off 42s. 6d. to 45s.; no change has taken place in the 65 fathom level ends; the 55 east is worth 30*l.* per fm.; the 55 west, 10*l.* per fm.; three stopes in the back of the 55 are worth, on an average, 30*l.* per fathom each. Carn Brea, 19 to 21; Clifford Amalgamated, 5 to 5½; Cook's Kitchen, 10 to 11; East Basset, 7½ to 8; East Caradon, 4 to 4¼; East Lovell, 7 to 8; Great Retallack, 2¾ to 2¾; Great Wheal Vor, 16½ to 17½.

Marke Valley, 6¾ to 7; the ends on Marke's lodes are worth in the aggregate 6¼ tons of copper ore per fathom; on Rosedown lode, 20½ tons of ore per fathom. North Crofty, 2 to 2½; North Downs, 26s. to 28s.; Wheal Emily Henrietta, 38 to 40; North Treskerby, 16s. to 18s.; Providence Mines, 25 to 27; South Crofty, 15 to 16; Tincroft, 14 to 14½. West Frances shares have been again in demand, at 30 to 35. Chontales have fluctuated during the week, but have been altogether firmer, and leave off 1¾ to 2; an extraordinary general meeting has been called for June 16, for the purpose of authorising the directors to raise fresh capital, not exceeding 30,000*l.* West Seton, 200 to 205; West Tolgus, 45 to 50; Wheal Basset, 62½ to 67½; Wheal Chiverton shares have been flat, at 1¾ to 1¾; East Seton, 20s. to 22s. 6d. Chiverton Moor, 6 to 6¼; at the meeting the accounts showed a profit of about 30*l.* on the quarter, and a balance in hand of 129*l.* 15s. 1d. The lead ore sold during the three months realised 1434*l.* 9d. 3d.; the 75 has been driven west towards the dip of the ore 7 fathoms, in a lode 2 ft. wide, with a very promising appearance; and, should this turn out as expected, the returns for the next quarter may be considerably increased. In the north part of the sett a trial shaft 6 fms. deep has opened upon a most promising lode, upon which a permanent shaft is to be sunk immediately. East Wheal Grenville, 34s. to 36s.; the lode at the shaft sinking below the 110 is 2 ft. wide, worth 4 tons of good copper ore per fathom. Wheal Grenville, 30s. to 32s.; Wheal Margaret, 5½ to 6; Wheal Mary Ann, 22 to 23; Wheal Seton, 80 to 85; Wheal Uny, 2 to 2¼.

The Market for Mine Shares on the Stock Exchange has been comparatively quiet during the week, and prices have had rather a downward tendency. St. John del Rey shares rose to 19½, but subsequently fell, and close at 17¾ to 18¼. Don Pedro North del Rey shares are slightly better, at 2 to 2¼. Anglo-Brazilian unchanged, at 3-16ths to 5-16ths prem. Chontales shares have been largely dealt in, closing at 1¾ to 1⅞; Rossa Grande, ¼ to ⅜ prem.; Frontino, 9-16ths to 11-16ths; Port Phillip, 1½ to 1⅝; English and Australian Copper, ⅝ to ¾; Cape Copper, 5¼ to 5⅜; Kapunda, 3-16 to 5-16. In British Mines only a moderate amount of business has been transacted. West Chiverton, 63½ to 64½; at the meeting, held yesterday, in Cornwall, a dividend of 2*l.* per share was declared, and the mine reported on most favourably. Chiverton Moor, 6⅛ to 6⅜; Chiverton, 2 to 2¼; Chiverton Valley, 4½ to 5; Great Laxey shares have been dealt in at 17; Great Vors are firmer, at 17 to 18; Emily Henrietta shares rose to 41, 43, and close about 40. New Lovell shares have risen 1 to 1¼. Prince of Wales shares are slightly better than the lowest point touched, closing 42s. 6d. to 43s. 6d. Mary Ann shares, 22 to 22½, and have been largely bought. Glan Alun shares in demand, at 7s. to 8s.; the prospects of the mine are good, the share list has been closed, and all shares taken up. Minera, 165 to 170.

IRISH MINE SHARE MARKET.—The Connorree Copper and Sulphur Mines of the county Wicklow may now be considered saved from the ruinous consequences of a winding-up in the Court of Chancery. Throughout the struggles of those shareholders who grasped the helm of the company when all but lost on the rocks of gross mismanagement and absolute dishonesty, we stood by them, in framing our reports so that no undue alarm should be created by details of no essential importance, and in carefully recording all that rested on good authority, and was in suppport of confidence in the intrinsic value of the mines, in which we ourselves believe. We are not infatuated with an idea that Connorree will reach the position which its fortunate neighbours, the Wicklow Copper and others are now occupying, or which itself held more than half a century ago, under the able management of a Weaver and a Kempston; but, from all that has been reported and seen by those in whom we can place full confidence, we have no doubt that, if not worked for share-dealing purposes alone, but for legitimate profits with energy and common prudence, the mine will still yield large returns, and probably considerable interest even on the large capital already spent, and in addition to that fairly due on the new preference shares when finally created. At the adjourned meeting of the shareholders, held on Saturday last, Mr. Flanelle was able to report that the cash lodgments and engagements for payments left only 667*l.* 19s. 9d. to be provided for to make up the 5000*l.*, the amount required to rescuscitate the affairs of the company and the working of the mines, upon which Mr. Lindsay offered 50*l.* if nine other shareholders would do the same, which was immediately responded to by seven to a similar amount each, two of 25*l.*, and one of 20*l.* respectively, and the following resolution was passed, on the proposition by Mr. Bailey—"That John Robert Greer, Esq., be appointed to act as secretary, agent, and general manager for the company as soon as it shall be released from the Court of Chancery; and that he shall continue to fill such office until the gentlemen who occupied the position of directors and auditors of the company previous to its affairs being placed under the Court of Chancery can legally resign, and until a new board of directors and auditors shall have been appointed." The meeting was then again adjourned, in order to give time for the small amount still required to be subscribed for. For some time past, while it was uncertain how far the exertions of the committee of shareholders of this company would succeed, and in which many supporters of mining enterprise are deeply interested, the mining share market has been more or less affected by contradictory rumours; but now that the affairs of this company are beginning to look brighter we may expect a revival of the old confidence in our leading mines. Connorree shares themselves have set a most favourable example, in going up from 4s. 9d., the highest quotation a fortnight ago, to 8s. per share, and closing in demand. Wicklow Coppers, 2*l.* 10s. paid, have just been done at 13*l.* 10s. Mining Company of Ireland shares, 7*l.* paid, command 19*l.* for cash, and are in request for account, at 19*l.* 2s. 6d. Cape Copper shares, 7*l.* paid, have been done at 12*l.* 10s.

At the Truro Ticketing, on Thursday, 2380 tons of ore were sold, realising 11,177*l.* 19s. 6d. The particulars of the sale were:—Average standard, 107*l.* 7s.; average produce, 6⅞; average price per ton, 4*l.* 14s.; quantity of fine copper, 165 tons 2 cwts. The following are the particulars of the sales during the past month:—

Date.	Tons.	Standard.	Produce.	Per ton.	Per unit.	Ore copper.
Apr. 30....	1726	£109 18 0	7¼	£5 5 0	14s. 5d.	£72 1 6
May 7....	2063	110 13 0	6⅞	4 16 0	14 1	70 8 0
„ 14....	1719	112 5 0	6½	4 9 6	13 10½	69 8 0
„ 21....	3922	113 0 0	6¼	4 6 0	13 9½	69 0 0
„ 28....	2380	107 7 0	6⅞	4 14 0	13 5	67 14 0

Compared with last week's sale, the decline has been in the standard 1*l.* 2s., and in the price per ton of ore about 1s. 6d. Compared with the corresponding sale of last month, the decline has been in the standard 5*l.*, and in the price per ton of ore about 7s.

At the Swansea Ticketing, on Tuesday, 3229 tons of ore were sold, realising 43,683*l.* 13s. 6d. The particulars of the sale were—Average standard for 9 per cent. produce, 97*l.* 7s. 0d.; average produce, 17⅛; average price per ton, 13*l.* 10s. 7d.; quantity of fine copper, 577 tons 8½ cwts. The following are the particulars of the sales during the past month:—

Date.	Tons.	Standard.	Produce.	Price per ton.	Per unit.	Ore copper.
May 5..	2526	£99 3 6	15½....	£11 10 9	15s. 5d.....	£77 0 0
„ 26..	3229	97 7 0	17⅞....	13 10 7	15 1½....	75 13 0

Compared with the last sale, the decline has been in the standard 1*l.* 16s. 6d., and in the price per ton of ore about 7s. On June 9 there will be offered for sale 1250 tons of ore, chiefly from Knockmahon and Berehaven.

The FALCON CLIFF MINING COMPANY has been formed for the purchase and development of two important mineral grants, nearly 1000 acres in extent, in the Isle of Man. The mines to be worked are known as the Slock and the Bell Abbey Mines, adjoining respectively the celebrated Foxdale Mines and the property of the Ballycorkish Company. The property is within two miles from the Port of St. Mary, and is about 2½ miles in length from north to south. Some of the more important Foxdale lodes run directly into the Slock Mine, which has, moreover, most uncommon advantages in the great height of country over the lodes, and its abrupt termination at the sea within a very moderate distance from the intersections of the several courses, thus obviating the necessity for expensive pumping machinery. Levels have been driven upon a fine east and west lode, and it is considered certain that large deposits of ore will be found at the junction of this vein with the main north and south lode. The Bell Abbey Mine is regarded by engineers to be of particular value, and that opinion has been fully confirmed by the recent discovery close to the company's boundary of a magnificent course of silver-lead ore, worth from 60*l.* to 70*l.* per fathom, at only 25 fms. deep, in a lode running directly into and through the company's property from north to south. The capital of the company is fixed at 30,000*l.*, in shares of 5*l.* each, and the purchase-money is 10,000*l.*, of which 6000*l.* is to

be in cash, and the remainder in paid-up shares. The company's prospectus will be found in another column of this day's Journal.

The following dividends have been declared during May:—

Mines.	Per share.	Amount.
Mitera	£5 0 0	£ 9,000 0 0
Devon Great Consols	7 0 0	7,168 0 0
West Chiverton	2 0 0	6,000 0 0
South Caradon	6 0 0	3,072 0 0
Tincroft	0 5 0	1,500 0 0
Prince of Wales	0 2 0	1,280 0 0
East Wheal Lovell	0 10 0	953 0 0
East Pool	5 0 0	640 0 0
South Darren	0 1 6	450 0 0
Wheal Kitty (St. Agnes)	0 2 0	429 10 0
Levant	2 0 0	330 0 0
Bronfloyd	0 6 0	300 0 0
Pontgibaud	0 11 11	55,000 0 0
Vancouver Coal	10 per cent.	4,130 0 0
Kapunda	0 0 6	1,700 0 0
Scottish Australian	8 per cent.	1,600 0 0
Port Phillip	0 1 0	500 0 0
Total		£94,052 10 0

At the South Caradon Mine meeting, on Tuesday (Mr. T. Kittow in the chair), the accounts for January and February showed a profit of 3208*l.* 18s. The credit balance amounted to 6191*l.* 17s. 9d. A dividend of 3072*l.* (6*l.* per share) was declared, and 3019*l.* 17s. 9d. was carried forward to the credit of the next account. The report of the manager (Mr. Peter Clymo) stated that he was pleased to be able to inform the shareholders that the prospects of the mine were much as they had been for a considerable time past, and he hoped, with a good standard, to pay the usual dividend.

At the South Darren half-yearly general meeting, on Thursday, the accounts showed a credit balance of 1334*l.* 10s. 1d., after charging costs to April inclusive. The report of the agents was very favourable. On the same day the directors declared a dividend of 1s. 6d. per share, being the second during the past six months.

At South Fowey Consols meeting, on Monday (the Rev. Dr. Treffry in the chair), the accounts showed a debit balance of 568*l.* 8s. 11d. The number of shares was reduced to 3000, and a call of 5s. per share thereon was made. Details in another column.

At Botallack Mine meeting the accounts for January, February, and March showed a debit balance of 519*l.* 0s. 5d. The agents report that in Carnyorth they have already opened more tin ground than they can take away in twelve months, more than one-half the men being employed in opening up the mine; and, looking at the present prospects, they recommend that a 12-head axle be added to the present stamps, which will enable them to increase the returns of tin. Ground opened in the three months in shafts, winzes, and levels, 153 fms. 5 ft. 7 in.; ground stoped on tutwork, 871 fms. 2 ft. 5 in.; ground broken by tributers, 179 fms. 1 ft.

At Wheal Mary Hutchings United Mines meeting, on Wednesday (Mr. John Arnold in the chair), the accounts showed a credit balance of 30*l.* 1s., all mine cost being paid to the end of April, also including the purchase of the extra machinery, consisting of a new water-wheel, 50 ft. diameter, 6 ft. breast, with all its appliances; also the purchase of materials at the Bickleigh Mines—pumps, bobs, &c. The tin sold during the quarter realised 701*l.* 6s. The manager's report was read, and considered highly satisfactory. There are now 74 hands employed.

At Chiverton Moor Mine meeting, on May 21 (Mr. M. Tremayne in the chair), the accounts for the three months ending March showed a credit balance of 129*l.* 15s. 1d. Capts. Juleff and Bennetts reported upon the various points of operation. They have increased the sales of silver-lead, and hope to do quite as well for the coming quarter; but if the 75 turns out as well as they hope and expect, they think the sales may be considerably increased.

At West St. Ives Mine extraordinary general meeting, on May 21, the accounts showed a balance of liabilities over assets of 104*l.* 16s. 3d. A call of 1s. 6d. per share was made. The agents report that the end now driving on the east and west lode, west of cross-course, for the last 3 fms. especially, has decidedly improved, worth for tin and copper 8*l.* per fathom; driving at 4*l.* per fathom, with an improved appearance. They have at surface about 30*l.* worth of tin and copper preparing for sale.

At the Rossa Grande Gold Mining Company meeting, on Thursday (Mr. Henry Haymen in the chair), the reports and accounts were received and adopted. The Chairman stated that the whole of the 27,000 unallotted shares had been placed at 1s. per share premium, so that he had no doubt they would be able to carry on the company's operations until they arrived at success without having to make a call on the shareholders. The decease of Mr. Hesketh, a valuable director of the company, was announced, and a vote of condolence to his relict and family was unanimously passed. Details in another column.

At the West Canada Mining Company annual general meeting, held yesterday (Mr. W. Gladstone in the chair), the reports and accounts for the year ending Dec. 31, 1867, were received and adopted. It was stated that the results of the past year had been most prejudicially affected by two principal causes—the low price of copper, and the barren floor of ground met with at the mines, and which had impoverished the quality of the lode. The Chairman announced that the present price of copper showed a considerable improvement on the average rate realised for the last year's produce, and, therefore, it was hoped that, as the most recent report from the mines was of a more favourable character, the operations of the present year would be attended with success. The Chairman also informed the meeting that upon the recommendation of the managers, Mr. John Taylor, jun., had been sent to out to the mines, to enquire into all matters connected with the working of the company's property, with a view to some more economical measures being adopted. The retiring directors and auditor were re-elected, and a vote of thanks to the Chairman and directors concluded the meeting.

At the New Quebrada Company adjourned meeting, on Thursday (Mr. Stock, M.P., in the chair), the poll was taken upon the question of the adoption of the report and balance-sheet, and upon the election of Mr. Styring or Mr. Gledhill to a seat at the board. In the place of Mr. Duguid, resigned, exclusive of proxies (which were not taken) the votes were—For the adoption of the report, and in favour of Mr. Styring, 480; against the report, and in favour of Mr. Gledhill, 550. The Chairman having stated at the previous meeting that the board of directors should regard the election of Mr. Gledhill as a vote of want of confidence, now informed the shareholders that a special meeting would be convened in three weeks, when the board would tender their resignation.

At the Nerbudda Coal and Iron Company meeting, yesterday (Mr. Henry Haymen in the chair), the report of the directors was adopted. Details in another column.

At the Vancouver Coal Mining and Land Company meeting, on Thursday (the Hon. C. W. Wentworth Fitzwilliam in the chair), a dividend was declared at the rate of 10 per cent. per annum (free of income tax). Details will be found in another column.

At the Eugenia Mining Company meeting, held at Lisbon, on May 11 (Senhor Felix Pereira de Magalhaes in the chair), the reports of the directors and fiscal committee, and of Messrs. das Neves Cabral and de Lima Mayer, the consulting engineers, were unanimously received and adopted. Satisfactory progress has been made in the works, and the indications of a large and permanent yield of rich ore are all that can be desired. The necessary buildings for officers and miners have been erected; altogether the concern is making favourable progress.

The directors of the Anglo-Argentine Company have forwarded to the shareholders a copy of a communication received from Major Rickard. The only portions which the directors have considered it advisable not to publish are the names of the localities in which these extraordinary rich lodes exist, and the cost of obtaining the same. The lodes are a very little distance from the company's silver lodes, and the cost of acquiring them will be next to nothing to this company under their arrangement with Major Rickard. Major Rickard and Mr. Barnard have both been written to requesting them to secure the property for the company, and the directors expect shortly to engage a competent mining engineer to proceed and take charge of the property. Capt. Thomas Treloar, the consulting engineer of the Don Pedro North del Rey Gold Mining Company, has kindly consented to select a gentleman for their approval. The directors have resolved to issue the remaining shares at par, but think it right to give the present shareholders the first opportunity of subscribing for them.

On the Stock Exchange the following prices were officially recorded during the week in British Mine Shares:—Great Wheal Vor, 17¾, Wheal Mary Ann, 22¾.—In Colonial and Foreign Mining Shares prices were:—Cape Copper, 12, 12¼, 12½; Port Phillip, 1 9-16ths, 1½; St. John del Rey, 19½, 19¾, 18¾, 18¼, 18½; Don Pedro, 2, 2 1-16ths prem.; Rossa Grande, ¼, ⅜, 5-16ths prem.; Chontales, 1 13-16ths, 2 1-16th, 1⅞, 1⅝; Anglo-Brazilian, ¾, 11-16ths; Frontino and Bolivia, 11-16ths; United Mexican, 1⅛.

COAL MARKET.—The arrivals this week number 102 ships. For all descriptions of coal there has been an increased demand, and upon second-class house coals an advance of 6d. per ton has been realised. Hetton Wallsend, 18s. per ton; Haswell Wallsend, 17s. 6d.; South Hetton Wallsend, 17s. 6d.; East Hartlepool Wallsend, 17s. 3d.; Braddyll's Wallsend, 16s. 6d.; Eden Main, 15s. 6d.; Kelloe Wallsend, 15s. 6d.; South Hartlepool Wallsend, 15s. 6d.; Hetton Lyons Wallsend, 14s. 9d.; New Belmont Wallsend, 14s. 9d. Unsold, 6 cargoes; 35 ships at sea.

The Bank of England return for the week ending on Wednesday evening shows in the ISSUE DEPARTMENT an increase in the "notes issued" of 509,425*l.*, which is represented by a corresponding increase in the "coin and bullion" on the other side of the account. In the BANKING DEPARTMENT there was an increase in the "public deposits" of 154,497*l.*; in the "other deposits" of 526,643*l.*; and in the "rest" of 2003*l.*; together 683,143*l.*; and a decrease in the "seven day and other bills" of 12,546*l.*=670,597*l.* In the assets there was an increase in the "public securities" of 16,861*l.*, and a decrease in the "other securities" of 92,408*l.*=75,547*l.*, which added to the increase of 670,597*l.* on the other side of the account, gives an increase in the total reserve of 745,144*l.*

THE GOLD MINES OF NOVA SCOTIA.
UNDER OFFICIAL PATRONAGE.
Now ready, price 4s. 6d.,
A POPULAR GUIDE, OR HANDBOOK, FOR TOURISTS, MINERS, AND INVESTORS, INTERESTED IN THE GOLD MINES OF NOVA SCOTIA. By A. HEATHERINGTON,
Copies can be had at the MINING JOURNAL Office, 26, Fleet-street, London

Contract for Coals for Ascension.

CONTRACT DEPARTMENT, ADMIRALTY, SOMERSET HOUSE.

THE COMMISSIONERS for Executing the Office of Lord High Admiral of the United Kingdom of Great Britain and Ireland, do hereby give notice that on TUESDAY, the 9th June next, at Two o'clock, they will be READY to TREAT with such persons as may be WILLING to CONTRACT for SUPPLYING and DELIVERING into Store at ASCENSION,

TWO THOUSAND TONS OF SMOKELESS SOUTH WALES COALS,

Fit for the service of Her Majesty's steamships and vessels.

ONE-HALF of the coals to be shipped by the 31st July, and the REMAINDER by the 31st August next.

A form of the tender and conditions of contract may be seen in the lobby of the Storekeeper-General's Department, Admiralty, Somerset House. No tender will be received after Two o'clock on the day of treaty, nor will any be noticed unless the party attends, or an agent for him duly authorised in writing.

Every tender must be addressed to the Secretary of the Admiralty, and bear in the left-hand corner the words "Tender for Coals for Ascension," and must also be delivered at the Department of the Storekeeper-General, Admiralty, Somerset House, accompanied by a letter signed by two responsible persons, engaging to become bound with the person tendering in the sum of £25 per cent. on the value for the due performance of the contract.

By order, ANTONIO BRADY,
Registrar of Contracts and Public Securities.
Contract Department, Admiralty, Somerset House, May 21, 1868.

Contract for Bolt and Sheet Copper.

BY ORDER OF THE SECRETARY OF STATE FOR INDIA IN COUNCIL.

NOTICE IS HEREBY GIVEN that the DIRECTOR-GENERAL OF STORES FOR INDIA will be READY, on or before Monday, the 8th June next, to RECEIVE PROPOSALS in writing, sealed up, from such persons as may be willing to SUPPLY—

BOLT AND SHEET COPPER,

And that the conditions of the said contract may be had on application, addressed to the Director-General of Stores, India Office, Westminster, S.W., where the proposals are to be left any time before Two o'clock P.M. of the said 8th day of June, 1868, after which hour no tender will be received.

India Office, May 29, 1868. GERALD C. TALBOT, Director-General.

VALUABLE MINERAL ESTATE FOR SALE.

£300.—A 21 years' LEASE TO BE DISPOSED OF in a valuable property, situated near FESTINIOG, NORTH WALES, and near a good road and railway station. The property is 250 acres in extent, and contains ABUNDANCE of SULPHUR, COPPER, and LEAD ORES.

For full particulars, apply to Messrs. WORDSWORTH and Co., Commercial Hotel, North Wales.

ON and AFTER June 8th the PRICE of the "DAILY NEWS," a HIGH-CLASS LIBERAL PAPER, will be ONE PENNY.

OFFICES,—21, BOUVERIE STREET, LONDON, E.C.

PONTGIBAUD SILVER-LEAD MINING AND SMELTING COMPANY.—Notice is hereby given, that an "A COMPTE," or INSTALMENT, of FIFTEEN FRANCS PER SHARE, on account of the DIVIDEND for the year 1867-68, is to be PAID on the 5th day of June next. This "a compte" will be paid at the office of the company, No. 24, Rue Richer, Paris, and at the London Agency, No. 6, Queen-street-place, on presentation of the share certificates with seventh dividend coupon, not detached, which will be stamped. The payments in England will, allowing for exchange, be at the rate of 1*l.* 1*d.* per coupon (less income tax). JOHN TAYLOR AND SONS,
London Agency, 6, Queen-street-place, E.C., May 26, 1868.

THE FALCON CLIFF MINING COMPANY
(LIMITED), ISLE OF MAN.

Capital £30,000, in 6000 shares, of £5 each,

Of which not more than £25,000 will in the first instance be issued (With power to increase).

Deposit on application £1 per share. On allotment £2 per share. The remaining £2 per share in calls of £1 each, nine and eighteen months from date of allotment.

DIRECTORS.

HENRY KELSALL ASPINALL, Esq., Claughton, Cheshire.
HENRY CHRISTIE BELOE, Esq., Unity-buildings, Lord-street, and Falkner-square, Liverpool.
JACOB GAITSKELL BROWN, Esq., Shipowner, Hartfield, Allerton, and Canning-place, Liverpool.
WALTER R. CRITCHLEY, Esq., St. Helens, Salwick Hall, near Preston, and Union Club, Manchester.
GEORGE DAWES, Esq., Ironmaster, Milton & Elsecar Ironworks, near Barnsley.
Each of whom subscribes for not less than 100 shares as his qualification.

BANKERS.

Liverpool ..... The Bank of Liverpool.
London ..... Messrs. Glyn, Mills, and Co.
Isle of Man ..... The Isle of Man Banking Company (Limited).

SOLICITORS.

Messrs. ASPINALL and BIRD, 3, Union-court, Castle-street, Liverpool.

AUDITORS.

Messrs. J. S. and R. BLEASE, Lord-street, Liverpool.

SECRETARY.

Mr. WILLIAM C. BEW.

REGISTERED OFFICES.

COLONIAL BUILDINGS, No. 36, DALE STREET, LIVERPOOL.

PROSPECTUS.

The property of the Falcon Cliff Mining Company (Limited) comprises two very valuable mineral grants or setts in the parish of Rushen, Isle of Man, within two miles from the port of St. Mary, containing nearly 1000 acres, and being about 2½ miles in length from north to south.

The northernmost or "Slock" Mine adjoins the celebrated Foxdale Mines, some of the master lodes of which run directly into this sett, and the present workings have proved that it possesses all the rich characteristics of its wealthy neighbour; in addition to which, it has most uncommon advantages in the great height of country over the lodes, and its abrupt termination at the sea within a very moderate distance from the intersections of the several courses; thus obviating the necessity for expensive pumping machinery. Advantage has been taken of this by driving levels into the face of the cliff, a little above high-water mark, upon a fine east and west lode, from which, in the course of driving, many tons of splendid silver-lead ore have been taken (from one of them over 80 tons), thus demonstrating to a certainty that large deposits of ore will be found at the junction of this vein with the main north and south lode.

The southern or "Bell Abbey" portion of the sett adjoins the property of the Ballacorkish Company, who are now raising a quantity of extremely fine silver-lead from lodes some of which can be shown to run directly into the property of this company. To this portion of the sett the several engineers whose reports are appended to the prospectus call particular attention, on account of the magnificent appearance of the veins at every point where they have been in the least degree exposed. Several small trials by shafts and adits have been made in the Glen (which runs through the entire length of this portion of the property), and in every instance rich specimens of silver-lead, copper, and blende have been obtained, in some cases at less than 4 ft. from surface.

These, it must be admitted, are features seldom if ever met with, and stamp the entire property as of no ordinary value.

During the negociations for purchase, and since the exact extent of the setts has been accurately ascertained and defined, the mines have been inspected by the following well-known mining engineers, whose names and position are a guarantee to the public, and whose reports are appended in full to the prospectuses—viz.:

Capt. JOHN KITTO (under whose management the Great Laxey Mines first became a success).
Capt. WILLIAM KITTO (Manager of the Snaefell Mines).
Capt. ABSALOM FRANCIS (Consulting Mining Engineer, Holywell); and
Capt. THOMAS MITCHELL (late of the well-known Parys Mines, Anglesea).

The estimate which these gentlemen put upon the southern portion of the property has been more than confirmed by the recent discovery, close to the company's boundary, of a magnificent course of silver-lead ore (worth from £60 to £70 per fathom), at only 25 fms. deep, in a lode running directly into and through the company's property from south to north. Lead ore to value has at the same time and place been found at 9 ft. from surface.

These facts, confirmed by the unanimous opinion of all the practical men who have seen the property, are sufficient to satisfy the most cautious investor as to the soundness and promise of the undertaking, and render further comment unnecessary.

The purchase money to be paid by the company is £6000 in cash and 800 paid-up shares, leaving a working capital of £20,000, which the engineers consider more than amply sufficient to fully develope the property.

The remuneration of the directors will be fixed by the company in general meeting.

No promotion money will be paid.

In the event of no allotment being made to an applicant his deposit will be returned in full.

The Articles of Association, the surveyors' reports, and the Crown leases, may be inspected, free of charge, at the offices of the solicitors of the company.

Prospectuses and forms of application can be obtained from the bankers and solicitors, and at the offices of the company.

AMERICAN MINES.

MR. R. P. ROTHWELL, Mining Engineer and Metallurgist, OFFICE,—WILKES-BARRE, PENNSYLVANIA, U.S.,
Having a LARGE EXPERIENCE in EUROPEAN and AMERICAN MINES, can FURNISH RELIABLE INFORMATION on the VALUE of MINERAL PROPERTY in any part of the UNITED STATES or the dominion of CANADA.

MR. J. S. MERRY, ASSAYER AND ANALYTICAL CHEMIST, SWANSEA.

BIRMINGHAM FINANCIAL COMPANY (LIMITED),
OFFICES,—WATERLOO STREET, BIRMINGHAM.
CAPITAL,—HALF A MILLION,
Reserve fund, £12,000.
ADVANCES made upon approved real and other securities.
DEFERRED PAYMENTS on Wagon Leases and other contracts purchased or advances made thereon. HENRY ALLBUTT, Secretary.

ESTABLISHED 1844.
GREAT BRITAIN MUTUAL LIFE ASSURANCE SOCIETY.
101, CHEAPSIDE, LONDON, E.C.
EMPOWERED by Special ACT of PARLIAMENT, 25th and 26th Vic., cap. 74.
Terminating annual premiums and sums assured payable during life.
PECULIAR ADVANTAGES OFFERED TO POLICY HOLDERS BY THIS SOCIETY.
The profits applied—first, in extinguishing the premiums AT A GIVEN DATE, and afterwards in making the policy PAYABLE DURING LIFE; this important advantage being secured without the payment of any additional premium.
ANDREW FRANCIS, Secretary.

LEAD ORES.

Date.	Mines.	Tons.	Amount.	Purchasers.
May 22	Dyliffe	68	£12 0 6	Walker, Parker, & Co.
	—Cashwell	40	13 6 3	Shield and Dinning.
25	—Cwmystwith	70	11 14 0	Sims, Willyams, & Co.
	—East Logylas	50	11 6 0	ditto
	—Glogfach	60	16 10 6	R. Michell and Son.
27	—Wheal Trelawny	34	24 18 0	Burry Port Company.
	—Bwich Consols	50	14 1 6	Walker, Parker, & Co.
	— ditto	66	7 1 6	Sims, Willyams, & Co.

[In last week's Journal, under the head "Lead Ores Sold," Messrs. Sims, Willyams, Nevill, and Co., are put as purchasers of the Plynlimmon and Stiperstones parcels, whereas the Burry Port Smelting Company were the purchasers. The latter firm are placed as purchasers of 30 tons of blende from the Stiperstone Mine; this is also a mistake, as the Burry Port Company do not smelt blende. These two errors occurred from the misplacing a "Ditto."]

BLACK TIN.

Date.	Mine.	Ts.	c.	q.	lbs.	Price p. ton.	Amount.	Purchaser.
May 21	Pedn-an-drea	6	8	1	6 ..	—	£ 361 9	9—Bissoe.
23	Wheal Uny	13	6	0	26 ..	£54 17 6 ..	732 13	9—Daubuz.
	—Pendeen Con.	2	18	3	14 ..	55 5 0 ..	162 12	6—Bolitho.
25	Penhale W. Vor	3	7	3	0 ..	— ..	189 14	0— ditto

COPPER ORES.

Sampled May 6, and sold at Swansea, May 26.

Mines.	Tons.	Produce.	Price.	Mines.	Tons.	Produce.	Price.
Cape Ore	63	32¼	£ 23 3 6	Knockmahon	96	8⅜	£6 5 6
ditto	62	32⅜	23 2 6	ditto	124	9⅞	7 10 0
ditto	60	32½	23 4 6	ditto	65	9¾	7 7 6
ditto	57	32¾	23 10 6	ditto	133	10⅜	8 1 0
ditto	57	32½	23 11 0	Berchaven ..	80	10⅜	8 0 0
ditto	56	32⅜	23 8 0	ditto	79	10⅜	7 19 0
ditto	54	26½	18 10 6	ditto	117	10⅜	7 16 6
ditto	53	26⅜	18 10 6	ditto	86	10¼	7 17 0
ditto	53	26½	18 15 6	ditto	79	10¼	7 17 0
ditto	56	35½	26 3 6	ditto	84	9¾	7 8 0
ditto	32	32½	24 12 6	ditto	67	9¾	7 10 0
ditto	55	35¾	26 13 6	Copper Ore	84	8⅞	5 15 0
ditto	54	35¾	26 15 6	ditto	83	8⅞	5 16 6
ditto	53	35⅜	26 18 0	ditto	77	8⅜	5 17 6
ditto	53	35⅜	27 1 0	ditto	57	9⅜	7 2 0
ditto	50	31⅛	23 4 0	Ballycummisk	37	8¼	6 1 0
ditto	50	31¼	23 6 0	ditto	42	5¼	3 19 0
ditto	45	31⅜	23 7 6	ditto	2	5⅛	3 12 6
ditto	71	35¾	27 4 0	ditto	1	19⅜	13 19 0
CapeRegulus	27	49½	38 4 6	Argen. Reg.	7	21	13 14 6
ditto	24	53¼	41 5 6	Copper Ore	14	17⅞	13 1 0
ditto	19	54⅜	42 2 6	ditto	11	3⅛	2 0 0
Moonta	96	13¾	10 6 6	Pomona	9	37½	28 2 6
Knockmahon	142	11¾	8 17 6	ditto	3	39	28 5 0
ditto	90	10	7 10 6	Casall	9	14½	10 7 6
ditto	125	9½	7 2 6	C. Regulus	9	50⅜	37 17 6
ditto	131	8⅜	6 7 6	British Reg.	15	13	11 14 0
ditto	71	8½	6 5 6				

TOTAL PRODUCE.

Cape Ore, &c.	1164	£27,415	9 0	Argentiferous Reg.	7	£ 96 1 6
Moonta Ore	96	991	4 0	Copper Ore	25	204 14 0
Knockmahon	977	7,191	4 0	Pomona	12	337 17 6
Berchaven	592	4,692	18 6	Casall	9	93 7 6
Copper Ore	301	1,823	11 0	Copper Regulus	9	340 17 6
Ballycummisk	82	410	19 0	British Regulus	15	175 10 0

COMPANIES BY WHOM THE ORES WERE PURCHASED:—

Copper Miners Company	88	£ 642 17 6
Freeman and Co.	249½	3,113 8 9
P. Grenfell and Sons	476	5,713 10 6
Sims, Willyams, and Co.	474½	4,875 17 0
Vivian and Sons	537	7,612 10 6
Williams, Foster, and Co.	766⅛	12,096 8 0
Mason and Elkington	135	3,238 6 6
Charles Lambert	306½	4,514 15 9
Sweetland, Tuttle, and Co.	196	1,675 3 0
Total	3229	£43,683 13 6

Copper ores for sale at Swansea, June 9.—Knockmahon 88, 96, 100, 81, 123, 126, 125—Berchaven 94, 88, 80, 122—Var 22—Spanish Ore 21, 8, 3, 3, 1, 2, 1—Copper Regulus 37, 19.—Total, 1250 tons.

TOTALS AND AVERAGES.

	21 cwts.	Produce.	Price.	Standard.
Whole sale	3229	17⅞	£13 10 7	£97 7 0

COPPER ORES.

Sampled May 13, and sold at the Royal Hotel, Truro, May 28.

Mines.	Tons.	Price.	Mines.	Tons.	Price.
South Caradon	100	£4 17 0	West's Ore	87	£1 4 6
ditto	96	5 12 6	ditto	51	6 12 0
ditto	80	5 17 6	ditto	38	4 10 0
ditto	61	7 6 0	ditto	1	12 1 0
ditto	59	11 17 6	Phœnix Mines	85	3 16 6
ditto	55	1 11 0	ditto	79	3 16 6
ditto	53	10 18 6	Wheal Rose	61	4 16 6
ditto	51	10 9 6	ditto	54	4 3 6
ditto	42	12 4 6	ditto	46	4 19 6
Clifford Amalgamated	98	4 6 0	North Treskerby	59	4 0 0
ditto	97	2 14 6	ditto	50	3 14 6
ditto	68	4 4 6	ditto	47	3 12 6
ditto	66	1 14 0	Poldice Mines	50	2 19 6
ditto	62	3 10 6	ditto	46	1 14 6
ditto	53	1 16 0	ditto	44	7 1 0
ditto	40	2 14 0	Craddock Moor	56	5 14 6
ditto	21	3 8 6	ditto	53	5 14 6
Glasgow Caradon	95	3 0 6	ditto	11	3 0 0
ditto	75	3 19 6	West Caradon	45	4 1 6
ditto	62	5 0 0	ditto	54	6 15 0
ditto	31	2 0 0	ditto	8	2 10 0

TOTAL PRODUCE.

South Caradon	597	£4352	17 6	Wheal Rose	161	£ 748 12 6
Clifford Amalgam	505	1579	2 0	North Treskerby	156	592 12 6
Glasgow Caradon	263	957	10 0	Poldice Mines	140	538 6 0
West's Ore	177	626	4 6	Craddock Moor	120	657 0 6
Phœnix Mines	164	625	6 6	West Caradon	97	500 7 6

Average standard ..... £107 7 0 | Average produce 6⅞
Average price per ton £4 14 0
Quantity of ore ..... 2380 tons | Quantity of fine copper..165 tons 2 cwts.
Amount of money £11,177 19 6
LAST SALE.—Average standard ..... £113 0 0—Average produce 6¼
Standard of corresponding sale last month, £109 18 0—Produce, 7¼.

COMPANIES BY WHOM THE ORES WERE PURCHASED.

Names.	Tons.	Amount.
Vivian and Sons	434 5-6	£1713 16 3
Freeman and Co.	182 5-6	1185 12 5
Grenfell and Sons	289½	1357 9 0
Sims, Willyams, and Co.	298⅓	1850 5 2
Williams, Foster, and Co.	514⅓	2681 17 2
Mason and Elkington	162 5-6	716 3 9
Copper Miners' Company	216	802 6 6
Charles Lambert	281½	870 9 3
Total	2380	£11,177 19 6

Copper ores for sale at Tyack's Hotel, Camborne, on Thursday next.—Mines and parcels.—Wheal Seton 780—West Wheal Seton 568—Clifford Amalgamated 550—South Wheal Crofty 440—West Wheal Tolgus 383—East Pool 165—Wheal Basset 117—Carn Camborne 71—Tincroft 33—East Wheal Basset 28—Dolcoath 24—Pendarves United 5.—Total, 3164 tons.

Copper ores for sale at Tabb's Hotel, Redruth, on Thursday week.—Mines and parcels.—Carn Brea 481—Crenver and Abraham 433—Prosper United 381—Par Consols 318—Great South Tolgus 139—Emily Henrietta 138—North Downs 133—East Carn Brea 127—Rosewarne United 25—Rosewarne Consols 24—Treworths 15—Trannack 8—South Dolcoath 7—Pembroke 2.—Total, 2231 tons.

NEW WORK BY JOHN BOURNE, C.E.

Published this day, Part I., in 4to., price 2s. 6d.

EXAMPLES OF MODERN STEAM, AIR, AND GAS ENGINES,

Of the most approved types, as employed for PUMPING, for DRIVING MACHINERY, for LOCOMOTION, and for AGRICULTURE, minutely and practically described. Illustrated by Working Drawings, and embodying a Critical Account of all Projects of Recent Improvement in Furnaces, Boilers, and Engines.

By JOHN BOURNE, C.E.,

Author of a "Treatise on the Steam Engine," &c.

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THE GEOLOGICAL ATLAS OF GREAT BRITAIN.

MAPS OF THE COUNTIES AND DISTRICTS, geologically coloured, from the GOVERNMENT SURVEYS, with valuable GEOLOGICAL and MINERALOGICAL INFORMATION.

London: JAMES REYNOLDS, 174, Strand.

MACAULAY'S STATION MAP OF THE RAILWAYS OF GREAT BRITAIN,

CORRECTED BY THE COMPANIES.

The various systems are distinguished by a difference in colour. Scale 10 miles to an inch. Price in sheets, coloured, 10s.; or with counties, coloured, 22s.

SMITH AND EBBS, TOWER HILL, LONDON, E.C.

Notices to Correspondents.

*** Much inconvenience having arisen in consequence of several of the Numbers during the past year being out of print, we recommend that the Journal should be *filed* on receipt: it then forms an accumulating useful work of reference.

NORTH TRESKERBY.—If it be true that an influential body of capitalists in London are purchasing, or about to purchase, a considerable interest in this mine, and that the first step to be taken is to have a London office, may I ask, through the medium of the Journal, to whom I can entrust my proxy in support of the proposed change?—A SHAREHOLDER.

SPANISH MINING.—Having heard some short time since that Mr. Sopwith was erecting a powerful crusher at his mines near Linares, and that it was to be worked by a turbine-wheel, may I ask him to oblige myself and other readers of the *Mining Journal* by stating how it answers, and giving some particulars, such as size of rolls, and number of tons it will crush per day, say of 10 hours. It being a rather novel power for crushing, the mining public would like to know the results.—ENGINEER.

SHARE DEALING.—We never interfere in the sale or purchase of shares; neither do we recommend any particular mine for investment or speculation, or broker through whom business should be transacted. The addresses of most of the latter appear in our advertising columns.

THE MINING JOURNAL,

Railway and Commercial Gazette.

LONDON, MAY 30, 1868.

EMPLOYERS' DISCOURAGEMENTS.

One of the greatest discouragements of an employer is found in the want of confidence in him felt by his men, notwithstanding he has given them proofs enough of the extent to which he is their friend. Colliers and ironworkers, for instance, will repose unlimited confidence in men of their own order, and will believe the most preposterous statements they make if they only promise a rise of the wages tariff, or the preventing of its reduction, notwithstanding that a little reflection would satisfy them that these men live by prophesying smooth things to their constituents. Employers may expend thousands of pounds in the promotion of the best interests of their men, yet these same men will give them credit for nothing but seeking their own aggrandisement, and when a testing time arrives it not unfrequently happens that the men who have been most benefited are the most untractable. After the last great strike of colliers in South Staffordshire it was charged, even in one of the Houses of our National Legislature, against the coal and iron masters of that part of the kingdom that they were less liberal than before in their contributions to one of the prize scheme efforts, by which it was sought to induce youths to continue their education after they had left school.

There can be no doubt that, to some extent, those gentlemen displayed less heartiness in the movement at the time spoken of, for they had found that their liberality was only thrown in their teeth in not a few instances, and used as arguments against them. This feeling, however, soon passed over, and men who were liberal before are liberal still. But with what result? This, that their men are more illiberal and unreasonable than the men of those employers who maintain and practice that when they have paid the operatives the money they have earned they have discharged their whole obligation. At this very moment that is occurring which forcibly illustrates the state of things we have been describing. There is a firm engaged in both the industries we have mentioned who, to our knowledge, have spent some 10,000*l.* in endeavouring to advance the secular and religious education of their artizans in the ironworks and the pits. They are carrying on business in a district where a strike is now being prosecuted against a reduction in wages that the masters have staved off till long after it has been carried out in other similar industries. In some parts of the district described the resistance has either ceased, or is gradually ceasing, but in the locality in which the employers indicated have their chief works there the most obstinacy is displayed, and this generous and philanthropic firm are, therefore, the heaviest sufferers. So marked has been the liberality of the gentlemen indicated, that mention of it will be found in Blue Books and in HANSARD; and circumstances some time ago brought to our knowledge conduct of theirs which does not appear in such records. One of their men became sadly injured, and his life was despaired of. His employer, however, supplemented the services of the club surgeon by those of his own family surgeon, kept the man constantly visited, and supplied with the best his cellar and kitchen could produce. By these means the invalid's life was spared; much to the surprise of the surgeons, who attributed his recovery exclusively to the stimulants and nourishment his master had sent him. Yet this workman is amongst the very foremost of the men who are inciting their fellows in the same employ to resist the only terms that their masters can offer them without absolute ruin. The result has been that the firm have now shut up all their works, and are blowing out their furnaces, till the men who cannot be led by kindness are made tractable by other means.

We have not made these remarks to intimidate masters from the adoption of that liberal policy which has its best reward in its performance, but rather to remind the men of a truth which they are so ready to overlook—that their masters are really their truest and their best friends, and by whom they will be least wronged and least deceived. The men are now being told by persons of their own order that their masters can afford to pay them the money they demand. Let them listen to the following testimony given upon oath on the 28th of last month before the Trade Union commissioners, by Mr. JOHN CHAMBERS, one of the proprietors of the Thorncliffe Ironworks, a firm who employ some 2500 ironworkers and miners:—

Sir D. GOOCH: If iron were to rise 25 per cent. now, would it make the market price more than a fair profit to the maker?—Well, I do not think it would.

Mr. HUGHES: What do you call a fair profit?—First of all, I want 5 per cent. for my capital invested; then I want it recouped in a certain number of years. I have laid down the capital, and put it into a trade, and I want it back at a certain period when that trade is exhausted; and I want a profit besides, or it is not worth while going into trade.

And you think that a rise of 25 per cent. now would not be more than a fair profit to the master, wages remaining at the present price?—I think it would not.

Sir D. GOOCH: If the present market price of iron were to rise 25 per cent., would a rise of 25 per cent. make it so high that the manufacturers would get more than a reasonable profit? Is he not now, in fact, working his establishment at a loss, because, if he is not getting 5 per cent. on his money, and getting his capital recouped, he is working at a loss?—I believe that there are only a very few ironmasters in the country but what are losing money now, and have been for the last 12 months.

Mr. MATHEWS: You know the iron trade pretty well, and have had long experience in it?—Yes.—And know all the large establishments in England and Wales?—Yes; most of them.—Do you believe that there is any ironworker in Great Britain at the present time not losing money?—No.

THE FRAMPTON IRONSTONE.

Of the many varieties of ironstone found in various parts of the kingdom, in richness of ore that found at Frampton Cottrell, in the neighbourhood of Bristol, is not to be excelled, containing as it does from 65 to 68 per cent. of iron. On visiting the locality a few days ago we found the greatest activity being displayed in the putting down of powerful and improved machinery for the development of the valuable seams of ironstone for which the district is famed. A pleasant walk of rather less than three miles from the Yate station of the Midland Railway, through a truly rural county, leads to the works, which are now carried on by a limited company. On first view some surprise is felt at such extensive works having been successfully carried on so far away from railway accommodation, so that the stone has had to be carted a distance of three miles. This, however, will be shortly altered, as a line of rails has been laid to the station named, and is now all but completed, so that instead of raising some 6000 or 7000 tons per annum there will be facilities for getting and transporting a very much larger quantity, and of the works ranking in importance with the foremost of those in the same county in the Forest of Dean, which now produces upwards of 160,000 tons of ironstone per annum. The machinery and buildings at Frampton Cottrell are of the most complete character, and include a stack 150 ft. high, lofty engine-rooms, boiler-house, and other buildings. There are four new boilers by the Haigh Company, of Wigan, with space left for two more. The pumping cylinder being put down is 70 inches diameter, with 13 ft. stroke. The new engines are by Fowler, of Leeds, the beds for which are of Yorkshire stone, the company having been able to get much larger blocks from the North than from the native quarries, and at a very much less cost, after paying the freight by railway, as well as other charges. The new buildings, however, are of local stone and bricks, there being every facility for making the latter on the ground, including a large drying shed, the floor being composed of iron plates, with flues underneath. The pumping shaft is 11 ft. diameter, and the pumps are large and powerful. At present there are two drawing shafts, at no great distance from each other, and two more are about to be sunk, and for which the engines are being put down. The depth at which the ore is found varies, one of the shafts being about 90 yards deep. The ore itself, which is the brown hematite, is got out in very large pieces, some of them weighing upwards of 15 cwts. The seams being worked run nearly vertical, and slope about one in nine, and the company have a very extensive field to be worked. There are several collieries in the neighbourhood of the ironstone mines, including the Cooper Heath Coal Pit, where a large number of men are employed. The Frampton Cottrell Company, however, are about to sink to the coal on their own ground, so that they will be able to provide for their requirements. Everything favours the belief that the works will be highly successful, pecuniarily and otherwise, and be the means of providing profitable employment for a very considerable number of men, and so laying the foundation of a prosperous community, in a remarkably healthy and picturesque district, being far more rural than is usually the case in localities where mining operations are carried on. Whether, with the advantage of a plentiful supply of coal, smelting works might not be profitably carried on, instead of sending all the ore into Staffordshire and other districts, will no doubt be a matter for consideration by the owners of such valuable seams of ironstone.

How far the rich veins of hematite extend in a westerly direction from Frampton Cottrell we are unable to state, although a little is raised at Ashton Hill, in Somersetshire. Mr. E. KNIGHT, of Ellenborough-park, Weston-super-Mare, a gentleman connected with the Ashton Vale Works, and a high authority in the district on all matters relating to mining operations, informed us that it is met with in many parts of Somerset, although the principal of what is raised is spathose, from Brendon Hills and Eisen Hill, for the Ebbw Vale Works. It is not a little surprising that in Somersetshire, in which upwards of 36,000 tons of ironstone are annually raised, and in which there are upwards of 40 collieries, with twice the number in the adjoining county, yet we believe it has only one blast-furnace—that at Ashton Vale. It is, however, not unlikely that in the course of time, not only at Frampton Cottrell but at other places in the neighbourhood, blast-furnaces will be deemed essential to the development of the vast mineral wealth of the district.

THE PROSPECTS OF SOUTH STAFFORDSHIRE.

As was to have been expected, the views expressed in the Journal as to the capability of South Staffordshire to make pig-iron with Northampton stone, and the improved machinery of Middlesborough, are being canvassed by the latter district. This we looked for, and should have been surprised if it had not been so. We are interested in no one district more than another; and, on behalf of the great iron and coal industries of the United Kingdom, desire nothing so much as to see the different localities putting forth those efforts to move with the times which are absolutely necessary if this nation is to maintain its supremacy in these departments of our trade. Wherever, therefore, we see that it is possible that a locality can avail itself of means previously almost unheeded, we feel the utmost satisfaction in pointing them out. These were the views by which we were influenced in inserting the article in question; and with this preliminary we will proceed to adduce some facts of which those who call our statements in question can hardly be aware.

It is said that, because furnaces 70 and 100 feet high work well in Cleveland, it by no means follows that similar plant would be successful with Staffordshire coal, and the ores proposed to be used. It is, however, a fact that in Shropshire, where the coal is very similar to that in South Staffordshire, the saving effected in Earl GRANVILLE'S 70-feet furnaces, as compared with those of 50 feet, is upwards of 10 cwts. of fuel to the ton of iron. Then, the Northampton ores not only contain, on an average, a larger percentage of iron than those of the Cleveland district, but are also more easily fused. Further, the Scotch ironmasters, who have to make use of a coal non-bituminous in its character, and similar in its constituents to the coal of South Staffordshire, have come to the conclusion that they must adopt large and tall furnaces. A plant of two furnaces, 65 ft. high, are now about to be blown-in in Scotland. If these answer the purpose, the results, coupled with the experience of Earl GRANVILLE in Shropshire, will show that the statement that it is possible to smelt iron in South Staffordshire in furnaces much higher than those now in use there is based upon solid foundations.

It is asserted as necessary that the furnaces must be put up near to the stone to save carriage dues; but the ironmaster must be guided by circumstances, and especially to decide where the balance of carriage will be in his favour. Viewed in this light, South Staffordshire has an advantage over Northampton as to site for the furnaces. Instance, the carriage of 30 cwts. of coal into the latter district from the former will be 4s. 6d., and the carriage and delivery of 1 ton of iron from Northampton to Staffordshire cannot be done at much under 6s. Thus, the total cost of railway dues upon 1 ton of iron made in Northampton, and delivered into South Staffordshire, will be 10s. 6d. In the making of 1 ton of iron in South Staffordshire from Northampton stone it will cost for the carriage of 2½ tons of ore 7s. 6d., and delivery 1s. 6d., making a total of 9s. In railway dues, therefore, as we have intimated, the balance of advantage is in favour of South Staffordshire. Do not the persons who make the objection see its practical refutation in the situation of furnaces in the neighbourhood of Middlesborough and all down the banks of the Tees, where the furnaces are a considerable distance from the ironstone mines, and the proportion of ore much larger than 2½ tons? Figures are also quoted as the cost which would be entailed in the making of iron in South Staffordshire from Northampton stone. But those figures represent a cost which is from 35 to 40 per cent. in excess of the Staffordshire outlay, even with the low furnaces now used there. The estimate for coal alone, when applied to the proposed new furnaces, is even 50 per cent. in excess of the actual cost, as shown by Earl GRANVILLE'S experience.

We look upon it as a most gratifying sign of the times that the ironmasters of South Staffordshire are bestirring themselves to secure what bids fair to be a continuance of the inestimable beds of puddling coal from which they have heretofore derived so much advantage in the quality of their iron. Those who make the objection that the Staffordshire coal will soon have gone are scarcely aware of the wealth that lies under the Permians. They will, no doubt, be glad to know that recent discoveries in the neighbourhood of South Staffordshire have proved 12 square miles of fuel beneath that measure. In this our Shropshire friends derive the first advantage.

We trust that the ironmasters of South Staffordshire will not imagine that their day is gone, but will believe that they have an opportunity—thanks to the energy and ability displayed by the Middlesborough masters—of continuing to keep their district in a foremost position in the iron trade of the world.

INSTITUTION OF CIVIL ENGINEERS.

The annual *conversazione* of the Institution of Civil Engineers, given by Mr. Charles Hutton Gregory, its President, took place at the Society's house, Great George-street, Westminster, on Tuesday evening, when an opportunity was afforded for examining a large number of engineering and other scientific novelties, of considerable interest. The museum was literally crowded with novelties, the more important of them attracting a large amount of attention. From the widely different purposes for which the machines were intended, it would be impossible to place them in the order of merit; it must, therefore, suffice to refer to them promiscuously. But it may be mentioned that the rock-boring apparatus, contributed by Mr. Appleby, appears (from a block of hard grey granite, through which a large number of holes had been bored) to be worth more than a cursory notice, and we shall, probably, be able to give shortly the working results of the machine. The cutter used is the diamond crown, which was patented by Mr. Leschol, and has been purchased by Messrs. Appleby. The diamond crown rock-borer, exhibited in work at the Paris Exhibition of 1867, differs, however, essentially from that under consideration, which is understood to be the joint production of Capt. Beaumont, R.E., and Mr. Appleby.

DODD'S STEELED RAILS.—The specimens exhibited by Mr. T. W. Dodds, C.E., close by the diamond-pointed boring-machine, were well worthy of inspection. When steel-surfaced rails were first brought before engineers, an idea was entertained that they would be slippery, and that there would be a loss of tractive power of engines working over them; and as there had been no experience of their greater durability, they would not incur any large extra expense. Messrs. Dodds then patented a cheap and expeditious process for case-hardening iron rails, and rails so treated were put down on many of the leading railways, both at home and abroad, which proved that steeled rails were not slippery, that the durability was increased to several times the life of iron rails in the same positions, and that, though the first cost was slightly increased, the greater durability showed they were cheaper. Having overcome the prejudices against steeled rails after long and expensive trials, steel, or so-called steel rails were introduced and largely adopted, though the price was double that of iron, showing a great change in the views entertained as to permanent way. The latest improvements not only include a process of converting, but a peculiar arrangement for rolling or hammering after such conversion, whereby the surfaces are rendered more tenacious, and the body of the rails are improved in fibre. These rails are superior to cast-steel, for the reason that durability or long-lasting against wear and tear is their degree of hardness. Cast-steel is homogeneous, and if hardened would be hard all through, and therefore brittle; if kept soft enough to be tough, the wearing qualities are reduced. Steel-surfaced rails (made by this improved process) have not this disadvantage, for the surfaces can be hardened or tempered to any required hardness, and still retains the ductility of the iron body; these rails are also superior to steel-surfaced rails made by welding a steel top on an iron rail, for no mechanical combination can be made with certainty, the expansion and contraction of the materials differ, and the rolling of the trains has a constant tendency to separate the two, as experience has shown; but by the improved method there is no defined line between the iron and steel, and it is an impossibility to separate them; it is, therefore, claimed that, due regard being had to the quality of the iron used, these rails are second to none for durability and price.

NEW VOLTAMETER AND VOLTASTAT.—Considerable attention was attracted to a new form of instrument, exhibited by Prof. Frederick Guthrie, of the Royal College, Mauritius. The instrument consists of a wide test tube, mounted on a foot, and containing mercury for about one-fourth its depth; above the mercury there is about twice the depth of dilute sulphuric acid; the top of the test tube is fitted with a perforated cork, through the centre of which there passes a long tube, open at both ends, and dipping under the mercury; upon one side of this centre tube is another, and smaller, tube, which carries a bulb containing fragments of linen—the lower end of this tube does not dip into the sulphuric acid, and the upper end is closed, with the exception of a microscopic opening; the electrode wires, which are protected by glass tubes, where they pass through the cork, are connected with platinum electrodes in the shape of narrow strips of foil, converging towards the top, and kept apart at top and bottom by strips of glass fused on to the platinum. The end of the bulbed tube is protected from dust by a small test tube, which is kept concentrically over it by fragments of linen. The only point requiring particular attention is the formation of the capillary opening in the upper end of the bulbed tube. This opening is made by blowing a little bulb at the end of the tube, bursting a little hole in this before the blowpipe, and allowing the whole to collapse while the air is continually injected. Several such tubes should be prepared. It is not difficult in this way to get an opening so extremely small as not to allow the mercury when at the top of the central tube to fall in less than ten minutes or a quarter of an hour. The cork and top of the larger test tube are made perfectly air-tight by sealing-wax. On connecting the wires with the poles, the water in the larger test tube is decomposed; the detonating gas can only escape by the capillary opening. The hindrance it meets with on account of the small size of such opening causes it to force the mercury up the central, or index tube, which is suitably graduated. The effect of the rise of the mercury is obviously twofold; it forces more gas through the capilliary opening, at the same time that it lays bare a part of the electrodes, leaving the active portions of them further apart. The quantity of gas produced is accordingly diminished; in other words, an increase in the strength of the current produces effects which diminish the strength of the current. The instrument is a regulator, which may be compared with the governor of a steam-engine. It is found that the mercury rises to a certain height in the index tube, and remains nearly at that height for many hours. Since a certain height of the mercury in the index tube corresponds to a certain pressure in the interior, and since the latter corresponds to a certain rate of delivery through the capillary opening, it follows that the quantity of electricity passing through the instrument is directly measured by the height of the mercury. The actual relation between the height of the mercury and the electricity which passes may, of course, be measured either by interposing a galvanometer, or actually measuring the quantity of gas evolved by fitting a gas-delivery tube over the capillary opening, &c. Nevertheless, an exceeding gradual depression in the index tube must occur even with a perfectly constant current, on account of the removal of a portion of the dilute sulphuric acid by electrolysis. For many purposes this is negligible, as when the instrument is used as a voltastat. It is clear that, as a certain height in the index tube corresponds to a certain activity, the amount of water lost from the dilute sulphuric acid in a given time is measured by the height in the index tube. Hence, on knowing the relative diameters of the index tube and the larger test tube, and knowing the amount of water decomposed in a given time, a simple calculation serves to make the minute correction.

SAFETY-LINK FOR PREVENTION OF OVER-WINDING.—The improved safety-link, invented by Mr. Edward Ormerod, was amongst the exhibits, but as it has been so recently described in the *Mining Journal* (see April 25) a full description will be unnecessary. It may be mentioned, however, that Mr. Ormerod, having carefully investigated a great many inventions, conceived that the serious defect of all of them was that of liberating themselves at the bottom of the contrivance. With the contrary view in his mind, he saw that if they were

set free at the top instead of the bottom nothing but the rope and the shackle at the end need go over the pulley. Accordingly he set to work to invent an apparatus on this new principle, and, after much patient labour, he has at length succeeded, and the result is the simple and efficient apparatus exhibited. Referring to the practical value of the contrivance, Mr. Richard Pope, on behalf of the Denaby Main Colliery Company, has given a most gratifying testimonial, wherein he states that at that colliery they have had an opportunity of testing the great efficiency of the invention, which has already saved them what might have been a very serious accident. The engine-man accidentally drew the cage into the pulley, when the safety-link acted with the most beautiful precision, causing no further inconvenience than an hour's stoppage in readjusting the links, &c. If the invention were only properly known, they can hardly conceive but that it would be universally adopted; they certainly consider it perfection. After noticing the action of the model, the expression of such an opinion will excite no surprise.

IMPROVED CENTRIFUGAL PUMP.—The centrifugal pump invented by Mr. Joseph Bernays has also been previously described in the Journal. It is so constructed that the revolving fan is entirely relieved from the pressure of the column of water on its outer surface, thereby causing less friction, less wear and tear, absorbing less power, may be driven at a lower speed than any other centrifugal pumps hitherto made. It is easily accessible for repairs, and may be had so that the fan can be taken out without disturbing the pump when fixed, or necessitating the removal of pipes. The suction and delivery flanges are made to match the regular-size pipes. No reducing or intermediate pipes are required. The efficiency of the pump remains the same for all speeds, and all heights of delivery. The foot valves above 5 inches are provided with double doors, which readily admit of the clacks being repaired, without disturbing any of the pipe joints. The quantities of water stated in the list being considerably within the capacity of the pumps, it may be greatly increased to meet circumstances. The inlet and outlet can be arranged, as indicated by the dotted lines in the woodcut, to suit any position.

FIRE-PROOF FLOORS.—Messrs. R. Moreland and Son, of Old-street, exhibited an improved method of constructing floors for buildings. The method of constructing this system of flooring consists in fixing wrought-iron girders at given distances apart on the walls of buildings, and then placing between them on their lower flanges a number of wrought-iron bow and string lattice girders; and on the upper or curved surface of these laying corrugated iron throughout the floor. Concrete or other material is then laid on the corrugated iron to the desired form and thickness, and sleepers, joists, and floor boards may then be laid on the concrete in the ordinary manner. The ceiling joists are notched or otherwise fixed on the lower part of the lattice girder, and are lathed and plastered in the usual way. The advantages claimed for this system of flooring are the adaptability of it to all spans and positions required in ordinary buildings, particularly in large spans; and it is more economical and much more rigid than floors constructed with rolled girders; that large spans may be constructed by this system without the intervention of main girders, as the wrought-iron girders are made of the greatest depth possible, being kept close to both floor boards and ceiling, thereby ensuring the greatest amount of rigidity and strength, with the least possible quantity of material. Attention is likewise desired to be called to the fact that this is the most simple form of girder. The angle irons being invariably used in one length throughout, and the rivets securing them to the web being closed by a powerful riveting-machine, thus make the girders very rigid, with the least amount of deflection when loaded: that the air space which is included between the under side of the corrugated iron and the ceiling being a non-conductor of sound and also of heat, renders the floor sound-proof, and safer under the action of fire, either from above or below the flooring. This air space may be used for ventilating rooms, by having suitable apertures provided in the ceiling, and connecting it to special flues built into the walls of the building. It may also be used for hot air for warming purposes, provided the ceiling is specially constructed for the purpose. The concrete thus laid on the corrugated iron forms a natural arch, and is prevented from exercising any lateral thrust by reason of the bow and string lattice girders, with the corrugated iron, acting as permanent centering to the arch. This combination is now proved by a variety of tests to be the best possible disposition of the various materials composing the floor, and the results are such that both great strength and economy are combined. This floor has now been practically tested both in supporting great weights and resisting impact from falling bodies, and this construction of floor is also found to give great facility in execution.

CONTRACTING TAP.—An improved tap, which cannot fail to be of great value in the workshop, was exhibited by Messrs. T. Lambert and Sons, of Lambeth. The cutters are kept in position by a wedge-shaped centre-piece. After the tap has gone the required distance into the fitting the handles are held, and the stock, continuing to rotate, is carried up by means of a pin working in a slot in the collar; the stock being now drawn up, the cutters (which slide in inclined grooves, and are connected to the collar) are thereby contracted, so as to be easily withdrawn. Then, taking hold of the handles, and turning the collar forward, the slot is carried back to the pin, when the tap is again ready for use. This tap is claimed to have many advantages; it saves considerable time, and does not take away the sharpness of the thread, as in the present solid tap, it not being necessary to unscrew the tap out of the work, as it is released and withdrawn at full speed, without reversing the machine, thus doing away with the necessity of constantly running oil on the tap to keep it cool when unscrewing itself. It also dispenses with the necessity for reversing the motion in the screwing machine—the cause of much wear and tear. The body of the tap, being made of steel, does not wear. The cutting threads being made of small-sized steel a better quality of steel is ensured; the tap is consequently very desirable under heavy work. This tap is especially adapted for screwing work, in which the tap has to be withdrawn. The durability of the tap is demonstrated by the fact that 12,000 holes have been screwed by one tap, without renewing the cutters.

INTERCOMMUNICATION BETWEEN PASSENGERS, GUARDS, AND ENGINE-DRIVERS.—An ingenious and very simple means of communication between passengers and guards was exhibited by Mr. Latimer Clark; a pair of circular bellows, or, for greater durability, a pump, is placed under the tender of the engine, the piston of which is kept working slowly as long as the train is in motion, being actuated by a crank and pulley, with a strap working round the axle of one of the wheels. This pump has ordinary india-rubber valves, and is connected to an exhaust tube, about the size of the finger, which runs beneath the carriages the whole length of the train, its extreme end in the hinder guard's van being closed by a plug; the pump exhausts the air from this tube (as long as there is any air in it), and at every stroke forces it out through a whistle which is fixed on some part of the engine and tender near the ear of the driver. A tap is provided in each of the guards' vans, by which they can at will admit air into the pipe, and cause the whistle to sound; and a modified form of the same arrangement is provided in every carriage; this constitutes the whole apparatus. When the train starts the pump at first causes the whistle to sound, but after a few strokes the pump soon exhausts all the air from the closed tube, and although it continues to work, it cannot eject any more air, and can no longer blow the whistle, which necessarily, therefore, remains silent throughout the rest of the journey; but at any moment, while the train is in motion, if one of the guards wishes to call the driver's attention, he has only to open the tap which communicates with the exhaust tube beneath his van, and the air being thereby admitted the whistle on the engine will begin to sound violently, and will continue to do so until the driver's attention has been obtained. The guards may also, if necessary, give special signals to the engine-driver by opening their tap once, twice, or thrice. In the same way any of the passengers may make a communication to the driver, but the arrangement is such that having once opened the communication they cannot close it again, and the whistle will continue to sound until the train stops, the driver acting as circumstances seem to require, and slackening speed, or stopping at once, or at some neighbouring station, at his discretion. The accidental separation of a portion of a train, and especially of a heavy goods train, is a not unfrequent accident, and it sometimes happens that the driver proceeds a considerable distance before he discovers the separation; there is much loss of time and some danger in backing to seek the hinder portion of the train, especially if the accident occur in a tunnel or on a dark night, as the detached portion, although showing no visible light, may continue in motion for a long time before the guard becomes aware of the separation. All risks from this cause is obviated by the use of these signals; for if any portion of the train becomes separated the whistle gives instant alarm, and the driver has time to warn the guard by his steam-whistle before any danger can ensue.

HYDROSTATIC SLUICE GATE.—The apparatus invented by Mr. W. Edwards, C.E., and exhibited by Messrs. Turner, of St. Peter's Ironworks, Ipswich, consists of a gate made in wrought or cast-iron, having a ram or plunger attached to each end of the upper cross-piece, working in upright cylinders, the forcing of water into which, by means of a small force pump raising the gate, which shuts against a frame, composed of two uprights attached to the cylinders, and a sill upon which they stand. It is kept in position when up by a pair of vertical guides, mounted on the heads of the cylinders. Two graduated scales made in brass are fixed to the guides, divided into feet, and 100 parts of a foot; a vernier attached to the gate points to one scale, showing the lift of the gate in feet and decimals; the other scale is read by a verpier attached to a float, thus indicating the depth of the water-head with the same accuracy. The quantity of water in cubic feet discharged per minute by the sluice may—with the aid of hydraulic tables—thus be correctly ascertained. The apparatus is simple in construction, the gate itself being the only moving part except the pump, and is thus not liable to be out of repair. The pump is placed in an iron box, which may also contain the regulating cocks for adjusting the rise and fall of the gate; these being kept under lock and key, the supply can only be regulated by the officer in charge, who would have possession of the key.

THE INDUCTORIUM.—But, perhaps, the largest amount of attention was attracted to the very beautiful inductorium exhibited by Mr. A. Apps, of West Strand. It was explained that the great advantage of these induction coils over all others is, that the insulation is permanent. There is a great saving of battery power, the contact breaker acts perfectly regular, and is under very easy control, and either small or large battery power may be used. For heating or calorific effects, and for experiments with the Leyden jar and fulminating or snapping panes, two or three times the usual battery power may be used. For a given battery power the effects are more than double those produced by coils on the old system. Many experiments, quite impossible with other coils, can be tried with safety; such, for instance, as that of testing the nature of the induction of the secondary upon the primary wire at the moment of discharge. Any experiment involving a connection between the primary and secondary may be performed with safety.

MINING, METALS, AND MINERALS—PATENT MATTERS.

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The metal manufacture patents recently specified include a patent of Mr. R. H. TAUNTON, of the Star Tube Works, Birmingham, relating to the manufacture of strip or sheet iron for certain purposes. In this specification it is premised that hitherto a difficulty has existed in the manufacture of tubes for various purposes, even when extra quality iron is used, to permit the operator, without fracture, to spread the ends outwards, so as to form flanges; but the patentee states that the object of this invention is to overcome this difficulty, and he proposes to effect this object by so arranging and building up the pile of iron out of which the finished strip or sheet is to be rolled that, instead of the grain of the finished tube being in its lengthwise course or disposed longitudinally, it is so arranged that a sufficient portion of the grain shall be distributed by preference on both sides in a transverse direction, or more or less obliquely. The result of this disposition is to permit of the tube being hammered, beaten, enlarged, and spread over into a flange, without its running the risk of splitting or cracking in its lengthwise or other directions under this operation; this risk has heretofore been an obstacle to the general use of iron for the manufacture of tubular flue-ways of boilers, or for the construction of tubes which require to be swaged, expanded, or flanged.

The use of hydro-carbon fluids, for the purpose of improving the illuminating power of gases, continues to form the subject of patents. Mr. N. F. TAYLOR, of Stratford, gas engineer, has recently specified a patent for certain means or apparatus, to be used for the purpose of impregnating air and aeriform fluids or gases with hydro-carbon, and also for burners used in the burning of inflammable air obtained: these burners, says the patentee, are also applicable when burning other gaseous fluids. The patentee states that, according to these improvements he uses endless chains, to which motion is communicated by means of a pair of rollers, and which chains support at short intervals apart pieces of perforated flannel, felt, or other open-work fabric, capable of holding hydro-carbon fluid in suspension. These chains are caused to traverse a tube, and an elongated, or endless (probably annular), chamber, in which the pieces of flannel, or other porous matter act somewhat in the same manner as a series of pistons or buckets, the object of such action being to prevent as much as possible the passage of the air, or other aeriform fluid, to be impregnated in any direction other than through the porous substance. The hydro-carbon liquid is supplied to the lower part of this tube, or endless chamber, from a suitable reservoir, which is placed by the side of it, and it is conveyed through a passage, which is furnished with a valve, acted upon by a float, into an attached chamber, which communicates with the bottom of the tube, or endless chamber, by means of a tube or passage.

The patentee, when he proposes to impregnate coal gas for the purpose of increasing its illuminating power according to the second part of this invention, directs that the hydrocarbon liquid shall be supplied to a central float chamber by an annular or other continuous passage, the float acting on a valve for the purpose of regulating the supply of such liquid, and the gas to be impregnated is caused to flow through this passage from the float chamber outwards in the opposite direction to the flow of the supply of hydrocarbon. The aforesaid annular or other continuous chamber is supplied at certain intervals apart in combination with porous matter designed for the purpose of holding and giving off the hydrocarbon. An improved burner which is to be employed is described in the third part of this specification. This burner is formed of two or more eccentric rings, through which the aeriform fluid or gas escapes, for the purpose of ignition. Each of these rings is formed internally with one or more sets or series of teeth or divisions, between which the aeriform fluid or gas is driven through the outlet, for the purpose of uniform distribution to such outlet, the said outlet being formed of a narrow annular groove.

The Whitworth Foundations are a great boon to the scientific and industrial world. They may, perhaps, open a new era in industrial, or, as it is somewhat eccentrically, and certainly very inappropriately, called, "technical" education (technical education really being instruction in terms—a branch of philology). We congratulate the labourers in industrial science on the inducements offered to them by Mr. Whitworth, who is not only himself a most distinguished workman in the field of applied science, but who, unlike many of his *confreres*, seems desirous to open the field of advancement and success to others.

THE MONT CENIS RAILWAY.—The experimental trains over Mont Cenis, ordered by the French and Italian Governments, have worked with great regularity and success. The Duke of Sutherland, Messrs. Brogden, Brassey, Blount, Buddicorn, and Fell (directors), Mr. Brunless (engineer), Count Arrivabene (a member of the Italian Parliament), and about fifty more, travelled over the line on Saturday, May 23. The length of the line from St. Michel to Susa is about 48 miles, and is intended to be opened for public traffic on June 8; but the mountain part of the railway is only from Modane to Susa. The steepest gradients are 1 in 12, and the smallest curve 2 chains radius; the average speed was 12 miles per hour. The Mont Cenis Railway, on Mr. Fell's system, consists, besides the two ordinary rails, of a centre rail, which is gripped by two vertical wheels, and these can be compressed upon the flanges of the rail so as, in conjunction with the brake-power, to exercise a pressure of 60 tons upon an engine weighing under 20 tons. The centre rail is the main regulator of the speed of trains in their descent. The experimental train, on Saturday, consisted of a locomotive, one luggage van, and four first-class omnibus cars, open at both ends, and communicating one with another. The time taken between St. Michel and Susa is stated to be four hours six minutes, after deducting stoppages for inspection. The diligence takes 12 hours, so that nearly eight hours are saved by the new mode of locomotion. The brake-power was put to several tests. Among others, while descending the mountain, at the maximum speed of 13 miles per hour, all the brakes were put on; the result was the stoppage of the train in seven seconds, and in a distance of about 30 yards. Part of the railway is covered at the top and sides, to shield it from the avalanches which at certain seasons of the year roll down the mountain sides. Of these covered ways the length constructed in wood and iron is about 8500 yards, and in masonry 12,500 yards. One of the party, in describing the journey, says—"This is what the powerful little locomotive selected for the traction of the experimental train in which we crossed Mont Cenis did for us. It wound us up the huge mountain, along the edges of dreadful precipices, through woods and over waterfalls, into the regions of snow, without the slightest mishap or hitch. It flew around the curves with a cheerful indifference to danger, and confidence in its own vast resources, that morally annihilated the terrors of the transit:" Everybody was satisfied, and it appeared to be the general conviction that a good time was coming for the shareholders. The highest altitude traversed by the line is 6658 ft. It should be observed that, on account of the expense and difficulties attending the boring of the Mont Cenis Tunnel, a much longer time has elapsed for its completion than was originally intended by its promoters. The tunnel, it is now said, will be completed by the end of the year 1872. The French end of the tunnel is at Modane, the Italian end at or near Susa; and it was to fill up the gap in the railway communication between France and Italy that induced Mr. Fell to project a line over the mountain until the tunnel was completed; so that this part of the line, from Modane to Susa, will be superseded on the completion of the tunnel. The company have experienced considerable difficulties in making the railway from mountain torrents, the River Arcq at one time having washed away bridges and embankments, and caused much damage. Some doubt has been entertained as to whether the line can be kept clear of snow in the winter months of the year, as the old road is blocked up, and has hitherto been crossed in sledges. There is no doubt there will be great difficulty in keeping the railroad open during the winter months, but Mr. Fell anticipates he will be able to keep the line clear for traffic.

THE DURATION OF COAL.—Comparing the present yield of coal (100,000,000 tons annually) with the quantity which Mr. Hull believes to lie in the British Islands within 4000 ft. of the surface, and in workable condition (83,544,000,000 tons), we find that we might continue to consume coal at our present annual rate for 835 years at least; but when we remember that our consumption has increased by 36,000,000 tons in the last 12 years (from about 65,000,000 tons in the year 1854 to 101,000,000 tons in 1866), and that the causes of increase still continue in existence, we cannot attribute any importance to the above calculation. There is no appearance that steam navigation or railways have at all approached their full development in this country, while in the steam-plough, in schemes of steam drainage or water supply, in the employment of steam to produce hydraulic pressure, in the use of small gas engines for workshops, and in a multitude of other ways, we have some indication of the increased future demand for coal.

COAL IN THE UNITED STATES.—It is calculated that 25,800,000 tons of coal were raised from the earth in 1867 in the United States of America. The great coal region of the United States is Pennsylvania, and in this district 12,650,571 tons of anthracite coal were raised in 1867, as compared with 12,379,490 tons in 1866, showing an increase of 271,081 tons; the extraction of bituminous and semi-bituminous coal in 1867 amounted to 2,255,738 tons, as compared with 2,338,316 tons in 1866, showing a decrease of 82,578 tons. The general result of coal mining operations in Pennsylvania in the year 1867, as compared with 1866, was thus an increase of 188,508 tons. The total amount of anthracite coal sent to market in 1867 was 12,650,571 tons, showing a slight increase upon 1866. The amount of bituminous and semi-bituminous coal which came to market in 1867 was 2,255,738 tons, and in addition to these amounts it is estimated that 2,000,000 tons were consumed in the anthracite regions, and 8,893,691 tons in districts not making any regular returns. The United States do not import much coal from Great Britain, but, nevertheless, they take a little English coal. In 1867 they imported 123,392 tons, as compared with 134,113 tons in 1866, 197,401 tons in 1865, and 202,763 tons in 1864.

RAILWAY IRON IN AMERICA.—The Allentown Rolling Mill is one of the largest establishments of the kind in Pennsylvania. It is for the production of railroad iron exclusively, and turns out 400 tons of rails per week. The daily work is 260 rails, 30 ft. long, and weighing 56 lbs. to the yard, or 560 lbs. each.

REPORT FROM NORTH AND SOUTH STAFFORDSHIRE.

MAY 28.—There is no change to report in the state of trade, and the one topic of interest is the lingering strike of the puddlers. Many men are going in, several additional works are in operation, or more furnaces are lighted, but the men meet, resolve not to give way, return home to starve, get more and more embittered, their household goods are dispersed, cleanliness and neatness and comfort at home, and the education of their children, all are checked, and that too in a struggle which week by week has appeared more hopeless. It is impossible for anyone with a heart not to feel for the men. The wages they are offered are low, and provisions and all commodities are high, but it is not a question of having what everyone would desire they should receive, but of having that or nothing. Two feelings keep them out. First, there is the notion that once wages are reduced it will be very difficult to raise them again; yet a few years ago a temporary impulse given to the demand, which proved only a flash in the pan, was at once followed by successive and large advances, and there can be no doubt that an improvement now would soon lead to an advance. People always magnify the value of their own agency, and are not disposed to give to forces which they cannot influence the credit they deserve. Again, there is a feeling of honour which leads the men to maintain the struggle. They have pledged themselves over and over again, and every man shrinks from being the first to give in. So they resist, and hopelessly endure the sad state of things from which they suffer. It is to be hoped they will not long maintain the strife, but wait for better times to recover lost ground.

A statement was made in a Birmingham paper yesterday that the well-known firm of John Bagnall and Sons was about to close the whole of their works, and put out their blast-furnaces, in consequence of the strike. This, however, is not true, as they are able to obtain a sufficient quantity of puddled bars to keep their mills at work.

Reference was made some time ago to an invention for consuming smoke by Mr. W. Tildesley and Mr. Bird, the former a partner and the latter the manager at the Albion Works of Messrs. John Harper and Co., of Willenhall, locksmiths and ironfounders, who possess the patent. Experience seems to confirm the value of this mode of securing complete combustion, and it is about being applied to puddling furnaces and brick-kilns. Perhaps no more striking test of its value could be furnished than the fact that it is used in connection with a reverberatory furnace at the Albion Works, in which iron is melted for casting, with only slack for fuel, and without any smoke. The perfect combustion enables slack to yield a heat intense enough to melt iron, and its success leads one to hope that it may afford the means of using the vast piles of inferior coal cast aside as waste at the mouths of the South Staffordshire collieries. It is very cheap, can be easily applied to any sort of grate, is readily cleaned or repaired, and is so simple that anyone with a slight amount of sense can fire. One great recommendation is that so long as a high heat is kept up smoke is impossible, so that the stoker in trying to keep up his heat must consume the smoke. No air enters which does not first pass through the fire; the hottest part of the grate is next the exit of the heat and the smoke, if there were any, and these two simple principles form the basis of any practical scheme with this object. So confident are the patentees of its success that they put up the grates without payment, dependent on their entire success. They are considering how it may be applied to domestic fires. It seems possible yet to have a pure atmosphere in London or in an ironmaking district.

The attempt of Mr. Greene to secure a new Royal Commission to investigate the subject of colliery accidents has failed for the present, and the results of Royal Commissioners generally do not inspire very enthusiastic expectations as to the fruit of their labours. If the workmen were once to take up the matter in earnestness and intelligence we should know the real causes of accidents, but as yet there does not seem much hope from that quarter. It is difficult to say if inspection be beneficial that the present staff is not really adequate to the work.

The Staffordshire Potteries Waterworks Company, in spite of increased expenditure, is still able to pay a dividend of 6 per cent. per annum, which is not so bad as dividends go just now.

REPORT FROM SCOTLAND.

MAY 27.—The business in Pig-Iron opened this week with a rather firmer market; but, as the low concluding prices of last week had been improved upon, only a small business was done on 'Change of some 800 tons. Yesterday the same improved feeling prevailed, and 52s. 2d. was our closing quotation. The return of the shipments would have helped prices more were it not that the great bulk of those from Ardrossan (4500 tons) were coastwise, and supposed to be on makers' account. Foreign and coastwise the total shipments for the week were 11,575 tons, against 13,265 tons for the same week in last year. To-day the market was flat, with more desire to sell, at 52s., at which a few lots were done, closing with sellers over. Buyers, 51s. 10½d. No. 1, g.m.b., 52s. 3d.; No. 3, 50s. 3d.; Gartsherrie, No. 1, 56s.; Coltness, 57s.; Glengarnock, 54s. Finished Iron is without any change of consequence, the works being yet all fully employed, and some are so busy that that they are adding to their plant. Blochairn is putting up a new mill this week for rolling sizes between the guide and merchant mills, and along with this they are adding

a new and more powerful engine for one department of their works, to be succeeded by the erection of a score of additional puddling furnaces. Some of the makers of merchant iron, however, complain very much of the scarcity of orders and of the unremunerativeness of prices, the smaller makers being the worst off, as is always the case in a scarcity of work. The list is the nominal criterion of prices, which, for first common bars, is 7*l.*; second, ditto, 6*l.* 12s. 6d.; angle iron, 7*l.* to 9*l.*; nail rods, 7*l.*; rails, 7*l.*; railway chairs (of which there has been some considerable shipments this week), 3*l.* 12s. 6d. to 4*l.* per ton.

The feebleness of the Coal Trade is giving rise, in the miners' minds, to the hopelessness of making a successful strike at present. This week the entire exports from the Scotch ports reached 26,400 tons, against 28,600 tons in the corresponding week last year, with prices rather a shade firmer. This was wholly on account of the rumour of a proposed general strike, which, according to the report of the delegates, at a meeting held on Monday, at Motherwell, is not likely to prove either acceptable to the colliers themselves, or likely to produce any good. From the reports given in at the meeting, it would appear that the men were fearful of taking the initial step of "demanding" the increased rate of 1s. per day on their wages, as agreed upon at the mass meeting held a few days ago at Powburn Toll, but they were willing to contribute towards a fund for organisation in the other districts throughout the country, with a view to better their condition. After several delegates had expressed their views in regard to the present position of affairs, Mr. A. McDonald advised the sending of agents to the various coal districts in the East of Scotland, to urge the necessity of increasing the miners' wages to the extent of 1s. per day, and adding 1s. to the price of coal per ton. This suggestion was adopted, and a committee, consisting of those present at the meeting, was appointed to carry it into effect. Throughout this district the threatened general strike is exciting little attention, and the colliers are of opinion that a "general" strike could not now be carried into effect. The Ayshire miners, at a general meeting, held on Saturday, protested against the present low rate of wages (3s. per day), and expressed their determination to "carry home their tools on June 17," unless their employers had granted the advance of 1s. by that time.

The minerals in the lands of Gartnavel, Wester Barrachnie, and Easter Mosshat are offered to be let, and contain ironstone, gas, splint, and main coal.

The trade in shipbuilding continues brisk, and the whole of our shipyards are covered with vessels in various styles of advancement. We hear that the Peninsular and Oriental Company have purchased (on the stocks) a 3000-ton iron screw-steamer, from Messrs. W. Denny Brothers, Dumbarton, 345 ft. by 42 ft. by 31½ ft. We have also to notice the launch of a twin screw-steamer of 464 tons, b.m., called the Midge, for the British Government. Her dimensions are 160 ft. by 25 ft., and her moulded depth is 11 ft. 4 in. The Bristol Steam Navigation Company had a paddle steamer launched yesterday afternoon, of the following measurements—length, 260 ft.; breadth, 26½ ft.; depth of hold to spar-deck, 22½ ft. Her engines are oscillating cylinders, and she will have fine accommodation for 60 first-class passengers. The shipjoiners continue on strike, and the whole body of joiners, at a meeting held in the Trades' Hall, unanimously resolved:—First, "That this meeting approves of the steps taken by the shipjoiners in Greenock to obtain an advance of wages, and considers the action taken by the shipjoiners on the Clyde in this dispute worthy of highest commendation; and, secondly, "That this meeting promises its hearty support to the men at present locked-out, contesting as they are the right of workmen to combine for their advancement and protection."

REPORT FROM DERBYSHIRE AND YORKSHIRE.

MAY 28.—There is no change in the condition of the Iron Trade of the district, which continues quiet. There is a moderate business doing in castings, but no improvement in the demand for rails, sheets, and plates, which for a considerable time past have been inactive, without much prospect of an alteration for the better. In Coal there is no increase in the tonnage leaving the district, the quantity going to London being limited, and the falling off from Clay Cross and other districts being of a marked character, when compared with what was sent at the corresponding period of last year. There is about an average trade westward to Worcester and Cheltenham, and in gas coal to Birmingham and other places, but the rule at nearly all of the collieries would appear to be short time. In the Burton-on-Trent district quietness still continues, and the collieries there are now as well off as those in the northern part of the county, although that is not saying a great deal. Still, with all the slackness of trade, almost every week reports the prospect of some new coal field being opened out, either by individual or collective enterprise. Amongst other projects, it is said that a colliery on the same principle as that of the Messrs. Briggs, at Normanton, is about to be started.

Most of the Sheffield trades remain in the same state as when last noticed, there being in few of them anything like activity. Heavy steel goods and general railway material are amongst the products most in request, but there is a fair business in castings, some of the houses engaged in the stove-grate branch in the neighbourhood being favourably off for orders. At Rotherham matters continue very quiet, but further on, at Milton and Elsecar, there is a fair trade in most departments, though the collieries in the same locality continue quiet. In the Barnsley district there is no improvement in the coal trade, the tonnage going to London being of a very moderate character, and not likely to increase for some months to come. To Hull and Grimsby the demand for steam coal is scarcely up to the average for the season, seeing that the steam-vessels from those ports have commenced running to Russia and the North of Europe. The Lancashire trade has also fallen off considerably, although for engine fuel and inferior coal there has been a considerable reduction during the last two or three months, so that prices are not at all remunerative. Coke continues in fair request, a good deal going into Lincolnshire for the use of the furnaces there. Several new collieries are being sunk in the district, including a very large one at Monk Bretton, near Barnsley, which will be one of the largest in South Yorkshire, as well as one of the deepest. During the past week very great progress has been made, the men in six days having sunk to a depth of nearly 13 yards in one shaft. One of the 12-ft. shafts has reached a depth of 63 yards, whilst a second one of the same size will shortly be commenced. The upcast shaft, 16 ft. in diameter, is now nearly 50 yards deep, and will be cased with cast-iron tubbing and a protecting wall. A new colliery is also being sunk not far from the centre of the town of Barnsley to the Thick or Nine-Feet seam, much to the annoyance of many of the inhabitants. The pit, which is the property of Messrs. Booth and Co., has been sunk to a depth of more than 50 yards: two seams, the Kent Thick and the Kent Thin, have been passed, whilst the main one will be reached at a depth of about 125 yards.

REPORT FROM MONMOUTH AND SOUTH WALES.

MAY 28.—The reports lately received from some of the ironmasters in the district indicate business as being a little more buoyant, and the hands employed at one or two of the leading works are said to be tolerably well employed. It is now evident that a better feeling is gradually springing up, and prospects are decidedly more encouraging than they have been for some months past. On home account purchases continue to be made with caution by the railway companies, but greater freedom is being exercised in the giving out of orders than has been witnessed for some time past. The Lancashire and Yorkshire Railway Company is about to give out an order for 10,000 tons of rails; and the Great Northern Railway Company is in the market for 4600 tons of iron rails of the large section, 2600 tons of cast-iron chairs, and 800 tons of steel rails. The statement made by Sir Daniel Gooch, Chairman of the Great Western Company, to the shareholders, that they now had plenty of money, will, undoubtedly, tend to a restoration of public confidence in that and the other leading companies, and as soon as it is established on a firm basis something like activity will again prevail in the home trade. Rails have just been shipped to some of the Russian ports, and there are iron freights in the market fron Cronstadt, Randers, and Riga. Belgian makers have intercepted some of the orders that were expected to have come to this district, and the prices at which they have taken them leave no margin for a profit. In order to carry on operations at such ruinous prices, some of the Belgian makers have endeavoured to reduce their wages, and the result has been a turn-out at two or three of the works, which will, no doubt, have some influence on their future transactions. From India enquiries are below the average, but the surveys now being made in that country for the extension of railways will, no doubt, cause an increase in the demand before long. From the continental markets the enquiry shows no material change, and the exports continue comparatively small. To the United States considerable quantities of rails are shipped, and advices from that quarter are considered favourable as to future requirements. Among other results of the passage by the State Legislature of the Erie Bill, is the prompt finishing of the Albany and Susquehanna Railway, now destined to become virtually a branch of the Erie road, running from Binghampton to Albany. The Bills now passed require the money received from the present issue of bonds to be expended on the road; and, as a consequence of this provision, and the late terrible tragedy, the entire Delaware division of the road is to be relaid with a double track of rails. New lines are also to be made in the British colonies, to form the connecting link between St. John's, Halifax, and Nova Scotia, so as to command a share of the general traffic between Europe and the whole of the American Continent; and as the United States and British colonies have for some time past been considerable purchasers, strong hopes are entertained that the principal part of the *materiel* required for the carrying out and completion of these works will be obtained from this district. There is a tolerably fair demand for pigs of the best brands, and prices are somewhat firmer. The Tin-Plate Trade is in a better position than it has been for the past month or five weeks, American and Canadian houses having increased their purchases. For steam coal there is a tolerably good demand, and merchants and shippers have a fair number of orders on their books. Large quantities have been shipped during the past week to the mail packet stations, Mediterranean ports, and French markets, the demand from the latter gradually increasing. House qualities are in good demand, and as operations have been resumed at all the house collieries, there will, probably, be a considerable increase in the clearances. The strike is now entirely at an end, and the lesson the Welsh colliers have learnt during the protracted dispute is one they will not speedily forget, as they have experienced, at a very heavy cost, the folly of listening to the rhodomontade speeches of parties whose object is to deter them from earning an honest livelihood for themselves, their wives, and families.

It is rumoured that the Pontygwaith Pit, which has been at a standstill for rather more than 10 years, is about to be re-started, and should this prove correct nearly the whole of the property in the Rhondda Valley will be occupied.

To enable operations to be greatly extended at the Ferndale Colliery two new shafts are about to be sunk. Both pits are to be 17 ft. by 12 ft. in the clear, and about 260 yards deep. The undertaking is a heavy one, and the contract for the whole of the work has been let to Mr. William Miles, formerly manager of the Abergorki Colliery, in the Ystrad Valley, who not only sunk that pit, but, up to a late period, was manager there.

The Llanelly Harbour Improvement Bill has passed the Select Committee of the House of Commons. When the contemplated works are carried out Llanelly will be placed in a much higher position with respect to dock accommodation than that which it now occupies.

In consequence of the ominous reports in circulation relative to the stoppage of the Taff Vale Rail Works, at Treforest, by the Aberdare Iron Company, a deputation waited upon Mr. Fothergill, praying him not to carry out the intention of closing the works, to enable them to obtain sufficient hands for the double-shift system at Abernant, but to continue operations at both works as heretofore, and it is satisfactory to find that the request has been complied with.

The late Mr. William Cory, in his will, states that he was entitled to 12-20th parts in the Naughton and Deep Duffryn Collieries, which, being subject to various new engagements that have been entered into, or in progress, and others in contemplation by the firm of Nixon, Taylor, and Cory, he authorises his trustees to join and concur therein, and employ the necessary funds out of his general estate to improve the value of such shares, and that his shares in the Haswell and Shotton Colliery, and the Merthyr Vale, shall continue in the same state until his sons William and Charles shall attain 21, when one moiety of the above collieries shall become the property of each son at his arriving at that age. To each of his daughters he leaves shares in other colliery property.

An immense block of coal, weighing considerably over 10 tons, and intended for the Industrial Exhibition at Havre, has just been raised from Messrs. John Brogden and Sons' Wyndham Pit, Ogmore Valley. The coal is from the 2 ft. 9 in. vein, and its removal from the working place occupied some 35 hours.

The arrivals at Swansea include—The Emily, from Genoa, with 220 tons of copper ore, for H. Bath and Son; Marquis of Worcester, from Cuba, with 630 tons of copper ore, for Richardson and Co.; Vencedora, from Carrizal, with 680 tons of copper regulus, for W. R. Tremelin; Leon Marie, from Cherbourg, with 47 tons of iron ore, for W. Crawshay; St. Antonio, from Carthagena, with 80 tons of zinc ore, and 86 tons of Esparto grass, for E. J. Walt and Co.; St. Muir, from Rotterdam, with 270 tons of fire-clay, for Vivian and Sons; Ianthe, from Caldera, with 360 tons of copper regulus, in bulk, and 250 tons of silver ore, for H. Bath and Son; Natala, from Carthagena, with 120 tons of zinc ore, and 1956 quintals of Esparto grass, to order; Limena, from Coquimbo, with 100 tons of copper in bars, 160 tons of ingots, and 315 tons of copper regulus, for H. Bath and Son; Blanche, from Bilboa, with 300 tons of zinc, copper, and lead ore, to order; Mona's Pride, from Carthagena, with 60 tons of zinc ore, and 50 tons of Esparto grass, for J. G. Homfray and Co.

THE ALEXANDRA (NEWPORT) DOCKS.

Thursday was a day of general rejoicing in Newport, in order to celebrate the event of cutting the first sod of the Alexandra Docks by the Right Hon. Lady Tredegar, the wife of the Right Hon. Chairman, Lord Tredegar. Trade generally was suspended, and the Mayor, Corporation, Freemasons, and the various benefit and friendly societies marched in procession to the spot, when the Mayor read an address to the right hon. lady, in which a hope was expressed that success would attend the efforts of the promoters.

In 1864 a company was formed for applying to Parliament to make the Alexandra Docks, the following gentlemen being directors of the company:—The Right Hon. Lord Tredegar, Mr. Crawshay Bailey, M.P., Mr. William Forman, Mr. Thomas Brown, Mr. George William Jones, Mr. W. L. Banks, Mr. Rowland Fothergill, Mr. William Williams, Mr. John Lawrence, Mr. S. M. Underdown, and Mr. T. B. Batchelor; and, in accordance with their instructions, plans and sections were deposited by Mr. James Abernethy, C.E., and Mr. A. Bassett, C.E. The scheme secured the unanimous support of all the railway and other companies in the district, except a moiety of the directors of the Old Dock Company, who, unfortunately, were under the impression that the construction of the new docks would materially injure their trade; and it was stated before the committee that their docks was amply sufficient for the existing trade of the district, and that no further dock accommodation would be required for many years, and that they could, if required, ship double the quantity of coal, &c., that was at the present time sent down for shipment. The promoters having encountered a severe struggle before the referees, and also the committees of both Houses, succeeded in obtaining the Act, and the Royal Assent was obtained on July 6, 1865, which was hailed with great pleasure by all parties really interested in the prosperity of Newport and the district. Not only had the promoters to struggle hard in getting their Bill passed through the Houses of Parliament, but they had to continue that struggle up to the present time, and it was only a short time back that they found themselves in a position to justify their undertaking the commencement of the work, and which, it is to be hoped, will speedily be completed, not only for their sakes, but for the interest of the town and district of Newport.

The following is a description of the Alexandra Docks, as proposed to be carried out in their entirety, commencing at the "Trumpet-mouthed Entrances," between the outer lock and the river. This description of entrance affords the greatest facilities for working vessels in and out. The curves being common to both directions will enable vessels to be passed beyond the tide-way of the river at once, without the necessity of swinging them across the channel of the river, as is done at the old dock. The dimensions of this trumpet-mouthed entrance will be 350 feet width between the pier heads, and 300 feet between the line of the river front and the outer gates, with a depth of 37 feet of water on average spring tides.

THE OUTER LOCK.—Length between gates, 350 ft.; breadth, 65 ft.; divided by a pair of intermediate gates, so as to form two locks, or one great lock. The cills will be laid 4 ft. 9 in. below those of the old dock, by which vessels of all classes will be worked in and out, at a much easier stage of the tide. Provision is made to receive the largest class of vessels afloat. Vessels of 1800 tons, and steamers of 2500 tons, drawing 23 ft. of water, will be enabled to enter or leave these docks, over an average of three hours on every tide throughout the year.

THE DOCK is proposed to be 1500 ft. in length, and 500 ft. in width, having an area of 17¼ acres. The depth of water over the cills will be 35 ft. average spring tides, and 25 ft. neap tide.

THE GRAVING DOCK is to be 350 ft. long and 65 ft. wide, communicating with the outer dock. In the west side of the outer dock will be erected the cranes for discharging ballast, also a double staith for loading vessels with coal. The north end will be used for the purposes of the import timber trade. On the north side will be erected warehouses for bonding import cargoes. On the west side and north end of the inner dock will be erected staiths for shipment of coal, all on the low level; each staith will have a very extensive and independent set of sidings, capable of holding 500 tons of coal. Lines of railway will also be constructed all round the quays, on the low level. A portion of the east side of this dock will be devoted to the iron and import trade, and on the quay there will be ample space for the erection of bonded and other warehouses. Power has been taken to abstract water from the River Ebbw for working the dock, by which the use of the tidal water will be dispensed with, thereby avoiding all the inconveniences and expense necessary in periodically removing the accumulation of mud, which would be the case if tidal water were used exclusively. The docks will be connected with the entire railway system of the district in the most convenient manner, by means of the six intended branch lines of railway: 164½ acres of land, exclusive of water area, have been secured for the purposes of wharfage, siding, warehouses, &c., for the present works, also 93 acres of land adjoining the River Ebbw for deposit of ballast. The company will also be enabled to take at any future time 213 acres to the south of the present site for further dock extension, together with 100 acres for ballast purposes.

Very great advantage will be secured to vessels destined for the Alexandra Docks, by their being enabled to avoid the most troublesome and intricate part of the river, which is between the entrance to the proposed dock and the old dock gates. Between these points the curve of the river is very sharp, and the current runs with great force against the bank and coal staiths on the western side. The position of the Alexandra Docks, being on the same side of the river as the town, and placed by the branch lines proposed in immediate connection with all the existing railways, secures the most perfect and complete through communication for import as well as export traffic. The large area of land secured for building purposes, together with the power invested in the Dock Company for increasing their area to upwards of 300 acres for the dock extension, if required, coupled with the enormous mineral wealth in the immediate neighbourhood, make the financial success of the scheme, as an investment, a matter of no speculation. The natural facilities are so great that Mr. Abernethy, who has had more experience in the construction of docks than any other engineer, has expressed his opinion that the proposed docks will be second to none in the kingdom, both as regards the facilities that will be given of ingress and egress, and also for the dispatch that will be given by the hydraulic power which will be provided for unloading and loading cargoes.

COLLIERY ACCIDENTS.

In the House of Commons, on Tuesday, Mr. GREENE rose to call the attention of the House to Colliery Accidents, and to move an Address for a Royal Commission to enquire into them. He said he hoped the House would aid him by discussing a matter of great importance, which he justified himself in bringing forward, having no connection with collieries, by appealing to the common interests of humanity in accidents which involved the loss of 2468 lives in 1865 and 1866. A Committee of the House had sat upon the question, and elicited much information, but there was still more to be done, and the progressive discoveries of science must always be suggesting improvements in the management of coal mines. He need not draw a harrowing picture of what occurred when 200 or 300 lives were lost in a colliery; but the man must be lacking in Christian feeling who could look into a blazing fire, remember that so many tons of coal cost a life, and refuse to do anything in his power to prevent accidents in future. During a long connection with working men he had experienced many accidents, but he never had a second accident from the same cause, and similar vigilance would prevent many colliery accidents. There were colliery Inspectors appointed by the Government, but they went to collieries after accidents, when all was made ready for inspection, and it was, therefore, difficult for them to ascertain what might have been the particular causes of them. In the report of the Committee there was a petition of miners, which set forth that the fearful sacrifice of life in mines abundantly proved that the legislative measures hitherto taken were totally inadequate to secure the personal safety of miners, that the Staffordshire practice of working thick coal in more than one place was highly dangerous, and that the loss of life in ironstone and coal mines proved the necessity for more extended legislative supervision. It had been said that if sub-inspectors were appointed the owners of pits would be too much relieved of responsibility. Legislative interference, however, was no new matter. In his opinion sub-inspectors ought to be appointed, and he was told that their appointment would be acceptable to the owners of collieries if it were made by the Inspectors, under whom the sub-inspectors should act, and to whom they should report. It was said that men were fatalists; but why should they be exposed to such risks that at last they became hardened and were careless whether they lived or died? There were pitmen who had left mines which they believed had become dangerous, and he desired so to improve the working of coal mines that the men generally should cease to be fatalists. In the petition of the colliery workers the appointment of sub-inspectors was asked for; and on this point he was at issue with the committee, who said that they did not think it right to recommend such appointments. What he had to complain of with regard to the report of the committee was that nothing practical had come of it. With regard to the proposed examination of overlookers, the committee suggested that no examination would afford so good a test as the personal knowledge of their qualifications which the owner of a mine might be expected to have; but he believed that the Chairman of the committee thought the overlookers should pass a proper examination for the office. Then the committee said that it would not be well to diminish the responsibility of owners and managers of mine by any action on the part of Inspectors, but it could not be said that this result would follow if the visits of the Inspectors were more frequent than they now were. At present the Inspectors rarely went down a mine at all, and they visited the mines at wide intervals, often allowing two years to intervene. [Mr. Jackson.—"No."] He referred to the evidence of Mr. Dickinson, and the report of the committee, in support of his statement with regard to inspection. He knew it was held that mine owners ought to continue free from liability for accidents to workpeople which were the result of the negligence of fellow-workmen; but, in his opinion, a heavy deodand should be levied on every pit where an accident had occurred through negligence. During 1867 there were 500 more accidents than there were in the previous year; and that being so, Parliament could not say that all had been done which ought to be done. He hoped that colliery owners would not think him antagonistic to them; he had no interest either for or against them, but it certainly was for their interest that the mines should be safely worked. The great point was to secure adequate ventilation. He believed that there had been some important inventions for the discovery of gas, and he hoped that the Government would grant him a Royal Commission to examine carefully into the merits of these tell-tale inventions. The Oaks Colliery had not been inspected for some years before the accident. He held, therefore, that the present inspection of mines was not sufficient. (Hear.) The number of Government Inspectors was only 12; there were 3000 pits, and who would allege that 12 Inspectors, without any sub-inspectors to aid them, were sufficient for the purposes of inspection? Mr. T. Wynne, a Government Inspector, had testified to the number of accidents which occurred owing to bad management, and added that in every case where a good manager was got he found that the accidents immediately decreased. Well, then, if the owners of coal mines failed to get good managers, he held that it was high time that means should be taken to secure them. Mr. Wynne, in his description of a good manager, said that he was a man who thoroughly understood the working of mines, and who had served a proper time under a proper mining engineer. Mr. Wynne also thought it would have a very good effect if, in certain cases, the Inspector should say to the owner, "I think you must take the responsibility on yourself unless you get a better manager." He hoped the circumstance of his calling attention to this subject would produce a good result on the owners of coal pits, for unless they managed their business better, and accidents became much fewer, it would be the duty of every right-thinking man to press for further legislation. Parliament had legislated with regard to sanitary and other matters, and yet they were told they must leave things alone in a case where accidents were so numerous and terrible. But though the accidents from explosions formed far the largest proportion of those which occurred, there were many also which took place from the falling of roofs. He thought he had shown from the evidence of Government Inspectors that many precautions which could be taken were neglected, and that a Royal Commission ought to be allowed to decide whether anything further was to be done. In the Oaks Colliery case the jury came to the conclusion that the deceased had met their deaths by an explosion of gas; they believed the explosion had occurred in consequence of the great accumulation of gas, which they attributed to the negligence of the manager and his subordinate officers, and they recommended that mines should be inspected once in three months by competent persons, and that they should be provided with scientific instruments for registering the quality and quantity of the air that passed through them. The jury were, no doubt, men thoroughly acquainted with the working of the pit. It was to be feared that colliers were too regardless of their lives, and often continued working in pits long after they were known to be dangerous. Some outbursts of gas might arise from unavoidable circumstances, but he believed such cases were not so frequent as those where the accumulation of gas might have been prevented by better management. As to the safety-lamp, many practical men held that it had been a curse rather than a blessing, it being apt to put men off their guard, while any little accident which opened it led to an explosion. Mines, moreover, were now worked which but for the safety-lamp would have been abandoned. Now, he maintained that workings should not be continued where the use of naked light was inadmissible. Not only the prevention of accident, but the health of the colliers, ought to be considered, for who could tell how many lives were shortened by inhaling foul gas? If a naked light could not be used, a pit could not be in a proper sanitary condition, the right use of the safety-lamp being to detect the presence of foul gas. Whether the single-shift or the double-shift system was the best he would not discuss, since the question would be better considered by a commission, as also would the question of a third shaft. Only a few years had elapsed since two shafts were rendered compulsory, and this regulation had already effected much good. A third shaft, according to a calculation with which he had been furnished, might involve a cost of an extra ¼d. a ton on coal; but the country, having willingly paid 2d. in the pound income tax for the liberation of 30 of our fellow-subjects in Abyssinia, would not think this a consideration when the saving of 2000 lives a year was at stake. He had himself no interest in mines, but he hoped pit-owners and other interested persons would co-operate with him in obtaining the appointment of a commission. The commissioners, it had been suggested to him, might, like the Boundary Commissioners, appoint barristers and civil engineers as their assistants, so that the mining districts might be visited and all possible information elicited. The hon. gentleman concluded by moving an address to the Crown for the appointment of a commission to enquire into colliery accidents.

Mr. W. JACKSON said he did not rise to oppose the motion, for there was not a single well-considered suggestion for the safety of their mines that the coalowners of the district with which he was connected were not most willing to comply with. He agreed that the present inspection was not sufficient Many new collieries had been opened in his district, but no new Inspectors had been appointed. The present Inspectors were over-worked. He did not think the remedy was in increasing the number of sub-inspectors, but in dividing the present districts, which were too large, and appointing an additional number of Inspectors. He regretted that the hon. member who had brought forward this subject was not better acquainted with it, but on behalf of the colliery owners he would say that there were no measures of safety and precaution which the Government could devise which they were not most anxious to adopt. The pecuniary loss by an explosion was so great that if the coalowners had to pay for the Inspectors themselves it would be a cheaper thing than the liability to accidents without inspection. He had not been a member of the Select Committee, but he had read the report and the evidence, and he trusted that the Government would carry their resolutions into effect. (Hear, hear.)

Mr. POWELL said that, having been a member of the Select Committee on Mines which sat in 1866 and 1867, the House would permit him to say it had been proved that many accidents might have been unquestionably averted if the inspection had been sufficient. It was stated before the committee that complaints were often made by workmen to the Inspectors, which brought them to the mines, and one of the Inspectors stated that when the mines were visited the reports of the workpeople were usually more than borne out by the facts. The committee came to a strong and unanimous recommendation that the number of Inspectors should be increased, and he was much disappointed on taking up the estimates for the present year to find that no provision had been made for an increase in the number of Inspectors. An improvement was much required in the class of men from which the managers and the inferior servants employed in mines were drawn. The hon. member was proceeding to express his gratification at the greater willingness of the owners of coal mines to receive Inspectors, when——An HON. MEMBER moved that the House be counted. It appearing that only 29 members were present, the House adjourned at half-past seven o'clock.

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HOLT TOWN OIL WORKS, MANCHESTER,
MANUFACTURERS OF VEGETABLE OILS, &c.
ANTI-FRICTION GREASE, 10s. to 14s. per cwt.
Wire rope ditto, free from acid, 15s. per cwt. Liquid ditto (between thick and thin), for trams, &c., 8s. to 12s. per cwt.
SKIP, HUTCH, CORVE, and WAGON OILS, from 8s. to 12s. per cwt.
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COPPER-SPOUTED QUART LAMPS, 4s.; TORCH WICK for ditto, 6d. per lb.
PATENT ANTI-CORROSIVE BLACK VARNISH,
"Paint Substitute for Wood or Iron," ready for use, 1s. to 2s. 6d. per gallon.
We shall be glad to furnish a detailed price-list on application.
Orders by post receive prompt attention.

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To proprietors of mines, quarries, mills, railway and steamboat companies, and all large consumers, most advantageous terms are offered.
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Preference will be given to ADIT LEVELS and those places where ROTATORY MACHINERY is in use, and can be applied to driving the AIR COMPRESSOR.
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In the Court of the Vice-Warden of the Stannaries.
Stannaries of Cornwall.

IN the MATTER of the COMPANIES ACT, 1862, and of the TRUMPET UNITED MINING COMPANY.—Notice is hereby given, that ALL CREDITORS of the above-named company are REQUIRED, on or before Tuesday, the 9th day of June next, to SEND IN THEIR NAMES AND ADDRESSES, and the AMOUNTS and PARTICULARS of their SEVERAL CLAIMS on the said company to WILLIAM MICHELL, Esq., the Registrar of the said Court, at Truro.
Dated Truro, May 26, 1868.

In the Court of the Vice-Warden of the Stannaries.
Stannaries of Cornwall.

IN the MATTER of the COMPANIES ACT, 1862, and of the CROWAN AND WENDRON TIN AND COPPER MINING COMPANY (LIMITED).—By an Order made by His Honour the Vice-Warden of the Stannaries in the above Matter, dated the 26th day of May instant, on the petition of Michael Henry Williams, of Tredrea, in the county of Cornwall, carrying on business at Gweek, near Helston, within the Stannaries of Cornwall, a creditor of the said company, IT WAS ORDERED that the said CROWAN AND WENDRON TIN AND COPPER MINING COMPANY (LIMITED) SHOULD BE WOUND-UP by this Court under the provisions of the Companies Act, 1862.
JOSEPH ROBERTS, Truro (Solicitor of the Petitioner).
Dated May 26, 1868.

In the Court of the Vice-Warden of the Stannaries.
Stannaries of Cornwall.

IN RE TRESAVEAN AND TRETHARRUP MINE.

TO BE SOLD, pursuant to an Order made in a Cause of Michell *v.* Hewitt and Others, and dated the 9th day of April last, BY PUBLIC AUCTION, at the Registrar's Office, at Truro, on Wednesday, the 3d day of June next, at Twelve o'clock at noon, the
1 (495th) PART or SHARE of the defendant, Richard Hewitt,
20 (495th) PARTS or SHARES of the defendant, W. W. Andrews,
10 (495th) PARTS or SHARES of the defendant, J. H. Martin,
5 (495th) PARTS or SHARES of the defendant, William Webb,
Of and in the said MINE. J. G. CHILCOTT, Truro
(Agent for Reginald Rogers, Plaintiff's Solicitor, Falmouth).
Dated Registrar's Office, Truro, May 21, 1868.

In Chancery.

LEASEHOLD TIN-PLATE WORKS, CALLED LLANELLY FORGE.

TO BE SOLD, pursuant to an Order of the High Court of Chancery, made in the Cause Miles against Evans, with the approbation of His Honour the Vice-Chancellor, Sir RICHARD MALINS, in One Lot, by Messrs. BARNARD THOMAS and Co., the persons appointed by the said Judge, at the Angel Hotel, Abergavenny, in the county of Brecknock, on Thursday, the 11th day of June, 1868, at Two for Three o'clock in the afternoon, the LEASEHOLD TIN-PLATE and IRONWORKS, known by the name of

THE LLANELLY FORGE,

Situate at LLANELLY, near ABERGAVENNY aforesaid, standing on forty-four acres of land, or thereabouts.
The WORKS comprise STEAM-ENGINES, ROLLING MILLS, BLAST and PUDDLING FURNACES, WATER-WHEELS, large FORGE HAMMER, FIRE-BRICK MILL, OFFICES, &c., and are held under a lease from the trustees of the late Capel Hanbury Leigh, Esq., for the residue of a term of twenty-one years. The works are ready for immediate occupation, and may be viewed on application to the Auctioneers.
Printed particulars may be obtained gratis of Mr. THOMAS MORGAN LLEWELLIN, Solicitor, Newport, Monmouthshire; of the Auctioneers, Albion-chambers, Bristol, and at the place of sale; and in London of Messrs. THOMAS WHITE and SONS, Solicitors, 11, Bedford-row.
J. A. BUCKLEY, Chief Clerk.
THOMAS WHITE AND SONS, of No. 11, Bedford-row, in the county of Middlesex
(Agents for Thomas Morgan Llewellin, of Newport, in the county of Monmouth, vendor's solicitor).
Dated this 9th day of May, 1868.

SPARE MINE MACHINERY FOR SALE.
PRELIMINARY NOTICE FOR THE FINAL SALE.

MR. BURGESS is instructed to SELL the whole of the SPARE MINE MACHINERY and MATERIALS at the POLDICE MINES, near SCORRIER, on Tuesday, June 9, at Eleven o'clock in the forenoon—viz.:
ONE 85 in. cylinder PUMPING ENGINE, 7 feet stroke in shaft and 10 feet in cylinder.
ONE 65 in. cylinder PUMPING ENGINE, 7 feet stroke in shaft and 9 feet in cylinder.
ONE 20 in. cylinder WINDING ENGINE, 4 feet stroke, equal beam.
ONE 19 in. cylinder WINDING ENGINE, 4 feet stroke, equal beam, with steam capstan attached (nearly new, and very strong).
FOUR BOILERS, 12 to 13 tons each, in good condition, with steam chest, condensed with spring water.

TWO 11 ton BOILERS.	ONE 19 feet BOILER.
26 9 ft. 7 in. PUMPS.	3 sets faggotted caps.
11 9 ft. 10 in. ditto.	1 8 feet faggotted loop for 6 inch pin, 2 inches thick.
2 9 ft. 11 in. ditto.	New 18 inch pole case.
55 9 ft. 13 in. ditto.	4 15 in. workings. [gine.
11 9 ft. 16 in. ditto.	3 sets large faggotted caps for 80 in. en-
11 9 ft. 17 in. ditto.	30 fms. 2 in. bucket rods.
8 9 ft. 18 in. ditto.	Staples and glands for 8 to 18 in. rod.
14 9 ft. 19 in. ditto.	Flange bolts.
5½, 6, 8, 9, 12, 14, 15, and 17 in. plunger poles.	2 new 6 ft. round buddle plates & taps.
Stuffing boxes and glands to match.	Sundry chain.
H and top door pieces to match pumps.	Yokes and glands.
50 ft. shears.	7, 8, 12, 13, 18, and 20 in. pump rings.
60 ft. ditto.	5 feet wrought-iron gudgeon, turned for 6 in. brass.
Capstan.	Bucket prongs.
7, 9, 10, 11, 12, 13, and 14 in. good pitch pine rods, 50 to 60 feet long.	Pump linings.
2 55 feet oak rods.	Old borer steel, old junk, &c.
114 pairs faggotted strapping plates, 5, 6, 7, and 8 in. wide.	Iron balance bob, 30 feet long.
	Ironwork for other underground bobs.

Any of the above can be purchased by private contract on application.
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Commission Agent for Webster and Horsfall's Patent Steel Wire Ropes, Charcoal Iron Ropes, Indian Rubber Goods, &c.
Barncoose, Redruth.
Dated Barncoose, Redruth, May 18, 1868.

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FURZE HILL WOOD MINE,
HORRABRIDGE, near TAVISTOCK, DEVON.

MESSRS. MAY AND MURCH WILL SELL, BY AUCTION, on the MINE, at HORRABRIDGE, on Tuesday, 9th of June next, at One o'clock P.M., in lots, the following very
VALUABLE MACHINERY, consisting of—
A very superior 24 in. cylinder ROTARY ENGINE (nearly new), with BOILER about 10 tons; fly wheel, 24 ft. diameter; sweep rod and other connections, all of the best construction, and in excellent condition.
ONE CAST IRON STAMP AXLE, carrying 12 heads; iron lifters, with frames (complete), in good order.
WATER WHEEL, 30 ft. diameter, by 3 ft. 6 in. breast, with iron axle, sockets, saddles, and brasses; also, 12 head stamps.
ONE DRAWING MACHINE (new), never used, made from the drawings of Messrs. Loam and Sons, engineers; 2 double powerful crab winches; shears; poppet heads; flat rods; angle and balance bobs; pulley, stands, and wheels; 4 ft. and other sheaves; 70 fms. of 7, 8, and 11 in. pitwork, with bottoms, complete; 40 fms. of 7 in. wood rods; plates; pins; staples and glands; 130 fms. of (B.B.) best whim chain, nearly new; several kibbles and tram wagons; 300 fms. tram iron; screw stocks, grindstone, bellows, vice; smiths' and miners' tools; two good blocks; hand screws; beams, scales, and weights; a quantity of old and useful iron; and a large quantity of timber; dressing floors, with round buddles, &c.
ONE WATER WHEEL, to work round buddles; dressing tools, and a variety of other articles too numerous to mention.
For viewing the same, apply to Captain DOIDGE, on the mine.
The mine is most conveniently situated for carriage, being within half-a-mile of the Horrabridge Station on the Tavistock Railway.
Refreshments on the table at Twelve o'clock, and the sale at One.
Dated May 22, 1868.

TREVENEN AND TREMENHEERE MINES,
IN THE PARISH OF WENDRON, CORNWALL.

MESSRS. WARE AND SON WILL SELL, BY AUCTION, at the above mines, on Tuesday, the 2d day of June next, at Twelve o'clock precisely, the WHOLE of the
MACHINERY AND PLANT,
Which comprises—THREE STEAM ENGINES and FIVE BOILERS; about 250 fathoms of pumps (from 6 in. to 12 in.), and other pitwork, ropes, chains, 44 heads of stamps, &c., &c., together with the dressing sheds, frames, and floors, and a large quantity of valuable slimes and leavings.
NOTE.—The PUMPING ENGINES and BOILERS, in each case, WILL BE OFFERED with the SETT, together with the lift of pumps down to the adit level, to enable a purchaser to open on the side lodes. This ought to be done before these mines are abandoned.
Catalogues will be ready for delivery on and after Monday, the 25th inst.
Paris-street, Exeter, 14th May, 1868.

MOLE TRAP MINE, NEAR CROMFORD STATION.
TO COLLIERY PROPRIETORS, LEAD MINERS, AND OTHERS.
IMPORTANT and EXTENSIVE SALE, by ORDER of the PROPRIETORS.

MR. GEORGE MARSDEN WILL SELL, BY AUCTION, on Wednesday and Thursday, June 10 and 11, commencing each day at Eleven o'clock,
THE ENTIRE WORKING PLANT OF THE MOLE TRAP MINE,
comprising, amongst other valuable articles—
An excellent 60-horse power 3-valve PUMPING ENGINE, with hand gear, and hanging rod for same.
TWO tubular BOILERS for ditto (by the Butterley Company), each 26 feet long, and 5 feet diameter, water gauge and fittings, complete.
A capital 10-horse power high-pressure ENGINE, with brake on fly wheel, drawing indicator, drum gearing, &c.
A tubular BOILER, 15 ft. long, 4 ft. 9 in. diameter, with fittings, &c., complete. (Engine and boiler by Thornewall and Warham, Burton-on-Trent.)
Lead ore crusher, with counter wheel; two force pumps, with wrought iron rods; metal water cisterns; double purchase crab, to lift 10 tons, and 70 fms. 2 in. rope; two ditto, to lift 4 and 6 tons; six-armed capstan, with pole and cover, and 100 fms. 4 in. rope; 90 fms. ¾ in. wire rope, new; 125 ft. 1½ in. new block rope; drilling machine; 13 drillers and brace; lathe, with crank and lever, fly wheel, and counter shaft; 20 pitch pine pump rods, 26 ft. to 42 ft. long, and from 7 in. to 10 in. square; entire contents of blacksmith's shop; 10 tons of wagon rails; several hundred tons of metal water pipes, with flanges, in lengths of 6 ft. to 9 ft., and 7 in., 9 in., and 14 in. diameter; plunger poles, with working barrels, to work 7 ft. and 8 ft. strokes, &c.; the engine, boiler houses, and chimney shaft, &c., &c.
MOLE TRAP MINE is within five minutes' walk of the Cromford Station on the Ambergate, Matlock, Rowsley, and Midland Junction Railway.
The ENGINES and PLANT will be on VIEW on the MONDAY and TUESDAY preceding the sale.
Catalogues may be had on application to Mr. GEO. WALKER, Mine Agent, Matlock, Bath; *Midland Counties Herald* Office, Birmingham; *Derbyshire Times* Office, Chesterfield; *Sheffield Independent*, Sheffield; and the Auctioneer, Market-place, Wirksworth.

BARNSLEY.
VALUABLE COLLIERIES FOR SALE.
PRELIMINARY ANNOUNCEMENT.

TO BE SOLD, BY PUBLIC AUCTION, towards the end of the month of July next, unless previously disposed of by private contract, when due notice will be given—
LOT 1.—All that VALUABLE COLLIERY, with the ENGINES and PLANT, called the
GAWBER HALL COLLIERY, otherwise WILLOW BANK,
and situate on the Barnsley Branch of the Lancashire and Yorkshire Railway and the Barnsley Canal, and distant from the town of Barnsley one mile.
LOT 2.—All that other VALUABLE COLLIERY, with the ENGINES and PLANT, situate at Mapplewell, near Barnsley, and upon the said Branch Railway, and called the
NORTH GAWBER COLLIERY.
The well-known Barnsley thick bed of coal is being worked by the above-mentioned pits, which are in first-rate working condition.
Further detailed particulars of the sale will be issued hereafter, and all information may be obtained upon application being made to Mr. G. ARMSTRONG, solicitor, Newcastle-upon-Tyne; or to Mr. W. H. PEACOCK, solicitor, Barnsley.
Barnsley, 27th April, 1868.

MINE LEASE.—FOR SALE, on favourable terms, the valuable LEASE of a FIRST-CLASS SILVER-LEAD MINE, situate thirteen miles south of TREGARON, in CARDIGANSHIRE, in the immediate neighbourhood of several well-known rich mines. The sett comprises 500 acres, with ample water-power. A shaft has already been sunk on one of the lodes to a depth of 18 fms., and several parcels of rich silver-lead ore sold, which realised a high price. It has also been most favourably reported on by well-known practical miners, and it is believed that a very moderate additional expenditure would suffice to render it a permanent dividend mine.
Address, "J. S.," MINING JOURNAL Office, 26, Fleet-street, E.C.

ON SALE,—THE DOLGOCH SLATE QUARRIES,
TOWYN, MERIONETHSHIRE.
These quarries contain the same veins, and are situated only 1¼ mile W.S.W. of the renowned Bryn-yr-Eglwys Quarries. A plentiful and constant supply of water flows through the premises, and the Towyn and Tal-y-Llyn Railway passes within fifty yards of the works, with running powers already secured.
Samples of slates can be seen on the premises, and ample means are afforded of inspecting the veins.
Further particulars may be obtained from WM. WMS. JONES, Towyn.

ON SALE.—A SLATE QUARRY TO BE DISPOSED OF, situated near HARLECH, NORTH WALES, commanding a good railway and sea traffic. The slates are of the best quality.
For further particulars, apply to Mr. WALTER DAVIES, Bethania, Festiniog, North Wales.

TO COLLIERY PROPRIETORS, IRONMASTERS, AND OTHERS.

FOR SALE (a bargain), a new pair of first-class HORIZONTAL HIGH-PRESSURE WINDING ENGINES, cylinders 18 inches diameter, 4 feet stroke, 10 feet drum, wrought-iron shaft and cranks, connecting rods, cross heads, reversing motion, and break, complete;
Also, a new pair of HIGH-PRESSURE HORIZONTAL ENGINES, made for rolling mills, cylinders 24 inches diameter, 3 feet stroke, with foundation plates, guide bars, connecting rods, cross heads, governor, and starting valve, complete;
Also, an EGG-END BOILER, 36 feet long, 5 feet diameter, ½ inch B.B.H. plate, and a CORNISH BOILER, 25 feet long, 5 feet diameter, with tube 2 feet 10 inches, ½ inch B.B.H. plate.
For prices, &c., apply to—
MR. W. SPARROW, ENGINEERING MANAGER,
PARRETT WORKS, MARTOCK, SOMERSET.

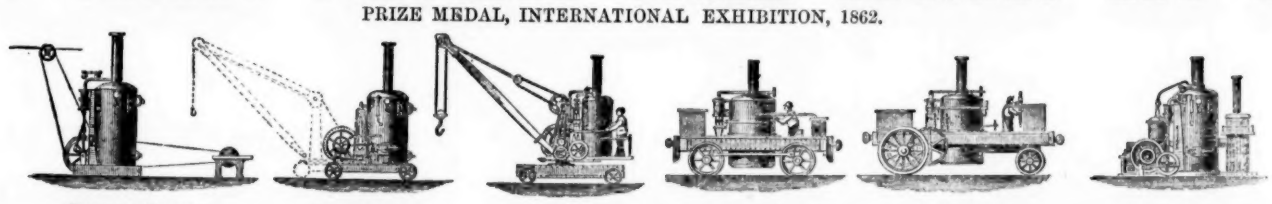
ENGINES AND BOILERS FOR SALE.

MESSRS. NICHOLLS, MATHEWS, AND CO. have FOR SALE ENGINES of VARIOUS SORTS and SIZES, AND SEVERAL GOOD TEN TON BOILERS. All are in excellent condition, and well worthy the attention of purchasers.
Full particulars may be obtained by applying to Messrs. NICHOLLS, MATHEWS, and Co., Bedford Ironworks, Tavistock.

COAL CUTTING MACHINERY.—The WEST ARDSLEY COMPANY having, by recently patented improvements, perfected their coal cutting machinery, worked by compressed air, are NOW READY to MAKE CONTRACTS for the CONSTRUCTION and USE of their MACHINES.
The results of twelve months' experience in the working of these machines, by the West Ardsley Company, have proved most satisfactory, their use being found to CHEAPEN the COST and IMPROVE the average SIZE of the COAL, to LIGHTEN the LABOUR, and also to MODIFY the SANITARY CONDITION of the MINE.
All communications to be made to Messrs. FIRTH, DONISTHORPE, and BOWER, No. 8, Britannia-street, Leeds.

NOTICE.—The WEST ARDSLEY COMPANY, having reason to believe that their patents are being infringed upon, hereby give notice that they will TAKE LEGAL PROCEEDINGS AGAINST ALL PARTIES who may MAKE FOR SALE, or USE ANY MACHINERY in the construction of which any such INFRINGEMENT is MADE.

CHAPLIN'S PATENT PORTABLE STEAM ENGINES AND BOILERS.
PRIZE MEDAL, INTERNATIONAL EXHIBITION, 1862.



STATIONARY ENGINE, From 1 to 30-horse power. No building required.
PORTABLE HOIST, 1 to 30-horse power. With or without jib.
STEAM CRANE, 30 cwts. to 20 tons. For wharf or rail.
CONTRACTORS' LOCOMOTIVE, 6 to 27-horse power. For steep inclines and quick curves.
TRACTION ENGINES, 6 to 27-horse power. Light and heavy.
SHIP'S ENGINE, Winding, Cooking, and Distilling. Passed by Government for half water.

ENGINES of each class KEPT IN STOCK FOR SALE OR HIRE, and all GUARANTEED as to EFFICIENCY, MATERIALS, and WORKMANSHIP.
WIMSHURST AND CO., ENGINEERS, 19, CORNWALL ROAD, LAMBETH, LONDON, S. (OPPOSITE WATERLOO RAILWAY STATION.)

RAILWAY WAGON WORKS, BARNSLEY.

MESSRS. G. W. AND T. CRAIK
ARE PREPARED TO
SUPPLY COAL AND COKE WAGONS
OF EVERY DESCRIPTION,
Either for cash, or by deferred payments through wagon-leasing companies.
WAGONS PROMPTLY REPAIRED.

LOCOMOTIVE TANK ENGINES FOR MINES AND COLLIERIES.

HENRY HUGHES AND CO.,
FALCON WORKS, LOUGHBOROUGH,
Have ALWAYS in PROGRESS, and can SUPPLY at short notice,
TANK ENGINES
To suit any gauge of railway and gradients from 1 in 16.

THE BEVERLEY IRON AND WAGON COMPANY
(LIMITED),
MANUFACTURERS OF RAILWAY WAGONS, WHEELS AXLES, LORRYS, CARTS, WOOD WHEELS, &c.,
IRONWORKS, BEVERLEY, YORKSHIRE.

BAGILLT OIL COMPANY (LIMITED),
FLINT.
MANUFACTURERS OF BLACK GREASE
FOR COLLIERY WIRE ROPES, TRAMS, WAGONS, &c., £5 PER TON
TORCH AND LAMP OIL, 1s. PER GALLON (Casks free).
LUBRICATING OIL, 1s. PER GALLON (Casks free).

DYNAMITE, OR NOBEL'S PATENT SAFETY BLASTING POWDER,
May now be had from
MESSRS. WEBB AND CO., CARNARVON,
Sole consignees from the patentee.

This powerful BLASTING AGENT will not explode from a spark, or concussion alone, but requires the combined effect of both, and is fired by a strong percussion cap and ordinary fuse. In a compressed state it may be fired in damp holes, or under water.
Force, SEVEN TIMES that of the BEST GUNPOWDER.
It will shiver to pieces cast or wrought-iron, or the toughest teak timber. No tamping is required. It is by far the safest explosive for blasting purposes ever discovered.

NITRO-GLYCERINE, OR NOBEL'S PATENT BLASTING OIL.

THE EXPLOSIVE FORCE of this BLASTING OIL is TEN TIMES that of GUNPOWDER, and the ECONOMY and SAVING in TIME, LABOUR, and COST in removing granite and hard rock, in sinking shafts, driving tunnels, and opening forward in close ends is immense.
It will not explode from a spark or fire, but from concussion alone, and is consequently much less dangerous than gunpowder or gun-cotton.
Being heavier than water it sinks to the bottom of a wet hole, no other tamping than water being required.
One charge of this blasting oil, which is now being used with wonderful effect in all the largest slate quarries in North Wales, will displace as much slate rock as four or five charges of gunpowder; and its great force, acting on a large quantity of good slate rock, shakes and displaces it at the natural joints, or cracks, without damaging the slabs nearly so much as the more numerous blasts from any other blasting material would do.
This invaluable quarrying agent may now be obtained from Messrs. Webb and Co., Carnarvon, sole consignees from the patentee.

TO THE PROPRIETORS OF FIRE BRICK, STONEWARE PIPE, AND TILE WORKS; ALSO, OF ARTIFICIAL MANURE, PATENT FUEL AND SUGAR WORKS, &c., &c.

CARR'S PATENT DISINTEGRATOR,

For REDUCING to a FINE GRANULAR POWDER various UNFIBROUS MATERIALS (whether HARD or SOFT) at the rate of from TEN to THIRTY TONS AN HOUR, according to the size and strength of the one used, and the amount of power available to drive it.
This unique and efficient mill, unparalleled for novelty, wholesale execution, and dispatch, is rapidly superseding throughout the United Kingdom and abroad all other pulverising machines at the above-named and other works, at an immense improvement to their manufacture in quality and quantity, and at a saving in steam-power and labour, in some individual cases amounting to several hundreds of pounds a-year.
An illustrated pamplet, fully describing the disintegrator, with woodcuts and prices (which range from £60 to £140), together with the names and addresses of some two hundred of its purchasers (some of whom have taken two, three, or even four of them), will be forwarded at any time, free of charge, on application to the patentee, as below, who will also send, by sample post where specially required, samples of powdered materials in the precise state as they were pulverised by various disintegrators, consisting of fire-clays, ganister, shale, heavy burnt stoneware, coal, pitch, &c., and likewise the names of some of the purchasers who have kindly consented to show theirs in operation to *bona fide* enquirers.
THOMAS CARR, PATENTEE, MONTPELIER, BRISTOL.

JOHN AND EDWIN WRIGHT,
PATENTEES.
(ESTABLISHED 1770.)
MANUFACTURERS OF EVERY DESCRIPTION OF IMPROVED
PATENT FLAT AND ROUND WIRE ROPES,
From the very best quality of charcoal iron and steel wire.
PATENT FLAT AND ROUND HEMP ROPES.
SHIPS' RIGGING, SIGNAL AND FENCING STRAND, LIGHTNING CONDUCTORS, STEAM PLOUGH ROPES (made from Webster and Horsfall's patent steel wire), HEMP, FLAX, ENGINE YARN, COTTON WASTE, TARPAULING, OIL SHEETS, BRATTICE CLOTHS, &c.
UNIVERSE WORKS, MILLWALL, POPLAR, LONDON.
UNIVERSE WORKS, GARRISON STREET, BIRMINGHAM
CITY OFFICE No. 5, LEADENHALL STREET, LONDON, E.C.

BRITISH, COLONIAL, AND FOREIGN PATENTS, REGISTRATION OF DESIGNS, COPYRIGHTS, TECHNICAL TRANSLATIONS, DRAWINGS, &c.
MR. MICHAEL HENRY,
Memb. Soc. Arts, Assoc. Soc. Engineers, Author of the "Inventors' Almanac," and the "Defence of the Present Patent Law,"
PATENT REGISTRATION AND COPYRIGHT AGENT AND ADVISER.
Inventors advised in relation to Patents and Inventive and Industrial Matters. Printed information sent free by post. Specifications drawn and revised. Searches conducted. Abstracts, Cases, and Opinions drawn.
Translations of Catalogues, Trade Notices, and Circulars for the approaching Paris Exhibition. Mr. HENRY has had especial experience in technical French, and in French Manufacturing and Commercial Matters.
Offices, 68, Fleet-street, E.C., London, corner of and entrance in Whitefriars street.

WILTON'S MATHEMATICAL INSTRUMENT ESTABLISHMENT REMOVED from St. Day to A. JEFFERY'S, CAMBORNE.

W. H. WILTON begs to thank his friends for their very liberal support for so many years, and informs them that he has now declined business in England in favour solely of Mr. A. JEFFERY, MATHEMATICAL INSTRUMENT MAKER, CAMBORNE, whom he considers (having been an assistant to his father for several years) is in every way capable of creditably maintaining the good name universally awarded to Wilton's instruments.

A. JEFFERY

Respectfully begs to inform Mine Managers, Surveyors, Engineers, &c., that having purchased Mr. Wilton's business, and the very valuable acquisitions and appliances belonging thereto, he has enlarged his Mathematical Instrument Manufactory, and is prepared to supply THEODOLITES, DIALS, POCKET DIALS, LEVELS, TRAVERSING and PLAIN PROTRACTORS, CASES OF DRAWING INSTRUMENTS, MEASURING CHAINS AND TAPES, ASSAYERS' SCALES and WEIGHTS, ENGINE COUNTERS, and, in short, every description of instruments used in SURVEYING, MEASURING, MAPPING, &c.
Repairing in all its branches promptly attended to.

CARLISLE BISCUIT COMPANY.

CARLISLE BISCUIT COMPANY.—WHOLESALE AND EXPORT BISCUIT MANUFACTURERS, CARLISLE, & 56, CITY ROAD, LONDON. For twenty years their biscuits have maintained a high reputation. For export they are specially prepared, so as to keep in any climate. To wholesale buyers a liberal discount is allowed. Price lists forwarded on application.

MEAT BISCUITS FOR DOGS.

MEAT BISCUIT FOR DOGS, made by the CARLISLE BISCUIT COMPANY, is undoubtedly the best and cheapest food for dogs that has ever been introduced. It is equally adapted for sporting dogs, yard dogs, or for pets. It requires no cooking, and, without any other food, keeps dogs in the highest condition. Many of the prize-taking dogs at the last Birmingham show were fed, from puppies, on this biscuit. Price 20s. per cwt. at Carlisle; or at their depôt, 56, City-road, London, 22s. per cwt. Post-office orders payable to WILLIAM SLATER, Carlisle. Sold by corn chandlers everywhere. Book of testimonials from well-known country gentlemen, sent on application. Agents wanted. WILLIAM SLATER, Managing Director.

TO MINING COMPANIES, MECHANICAL ENGINEERS, MERCHANTS, SHIPPING AGENTS, &c.

THE TITANIC STEEL AND IRON COMPANY,
(LIMITED)
MANUFACTURE A VERY SUPERIOR QUALITY OF STEEL FOR
BORERS, ROCK-DRILLING, AND MINING PURPOSES
GENERALLY; ALSO FOR
LATHE TOOLS, TAPS, DIES, DRILLS, PUNCHES, CHISELS, SHEAR BLADES, SNAPS, AND BOILER MAKERS' AND SMITHS' TOOLS.
SOLID CAST-STEEL HAMMERS
CAREFULLY MADE OF BEST CAST-STEEL TO ANY PATTERN.
The Company's STEEL is manufactured according to the processes and under the supervision of
MR. ROBERT MUSHET.
WORKS AND OFFICES,—
COLEFORD, FOREST OF DEAN, GLOUCESTERSHIRE.

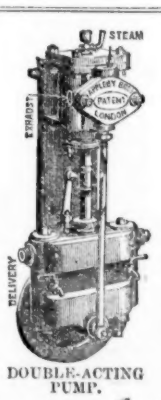
HEATON'S PATENT.
THE LANGLEY MILL STEEL & IRONWORKS COMPANY
(LIMITED),
LANGLEY MILL, NEAR NOTTINGHAM,
Are now making Cast-Steel suitable for Tools, Taps, Dies, Chisels, &c., &c., Shear Steel, and Iron of a very superior quality, by their direct process, under the superintendence of the Patentee.
The range of quality which this process secures renders the Steel and Iron suitable for almost every purpose to which these metals can be applied. Also, CAST-STEEL CASTINGS of all kinds from PATTERNS or DRAWINGS.

ORMEROD, GRIERSON, & CO.,
ST. GEORGE'S IRONWORKS, HULME, MANCHESTER,
Have the largest assortment in the Trade of PATTERNS,
SPUR WHEELS, BEVEL WHEELS, MITRE WHEELS.
ALSO
FLY WHEELS, DRIVING PULLEYS, AND DRUMS
CAN BE SUPPLIED BORED AND TURNED, IF REQUIRED.
CATALOGUES ON APPLICATION.
ALSO, MANUFACTURERS OF BLAST ENGINES, COLLIERY AND ALL OTHER DESCRIPTIONS OF STATIONARY ENGINES AND BOILERS, MILL GEARING, &c.

ARTESIAN BORING.
IMPROVEMENTS IN
TOOLS FOR BORING FOR WATER, COAL, AND MINERALS.
TILLEY'S PATENT.
These consist in DOING AWAY WITH THE MALE SCREW ON BORING RODS, and, by their patented arrangements, DIMINISHING THE RISK OF BREAKAGE, and RENDERING REPAIRS EASY. For prospectuses, apply to—
M. BEALE, 21, GRESHAM STREET, E.C.
Estimates given for obtaining water and boring for minerals.

PARIS EXHIBITION, 1867, GOLD MEDAL.
CLAYTON, SHUTTLEWORTH, AND CO.,
At the Great Triennial Trials of the ROYAL AGRICULTURAL SOCIETY OF ENGLAND, held at Bury St. Edmunds, July, 1867, received the following AWARDS:—
For Single Cylinder Portable Steam Engine,—THE FIRST PRIZE OF £25.
For Double Cylinder Portable Steam Engine,—THE FIRST PRIZE OF £25.
For Horizontal Cylinder Fixed Engine,—THE FIRST PRIZE OF £20.
For Double Blast Finishing Thrashing Machine,—THE PRIZE OF £15.
Also, THE SOCIETY'S SILVER MEDAL for ADJUSTING BLOCKS for Machines.
The duty performed by all C., S., and Co.'s Engines on this occasion considerably exceeded that of any others. C., S., and Co. refer with pleasure to the fact that the duty of their "Commercial" or Single Valve Engine at Chester, so long ago as 1858, was not equalled by any "ordinary" Engine at Bury.
CLAYTON, SHUTTLEWORTH, & CO., LINCOLN;
And 78, LOMBARD STREET, LONDON.

PATENT FLEXIBLE TUBING,
AND BRATTICE CLOTH FOR MINES
MANUFACTURED BY
ELLIS LEVER,
WEST GORTON WORKS, MANCHESTER.



DOUBLE-ACTING PUMP.

PARIS EXHIBITION, 1867—AWARDS, } Silver Medal for STEAM CRANES. Bronze Medal for DONKEY FEED PUMPS.

APPLEBY BROTHERS,
EMERSON STREET, SOUTHWARK,
LONDON, S.E.,
Engineers and Patentees of STEAM CRANES, DONKEY PUMPS, &c.

PATENT DONKEY PUMPS.

Nos.	1	2	3	4	5	6	7	8	9
Diam. of ram ..	1½ in...	2 in.	..2¼ in.....	2½ in.....	2¾ in.....	3 in.....	3¼ in.....	3½ in.....	4 in.
*Gall. per hour ..	230 ..	400 ..	680	850	1200	1500....	2100	2500	3800
Approx. H.P.....	15 ..	25 ..	40	50	80	95	130	150	230
Single-acting price	£10 5..	£12 10..	£15	£18	—	—	—	—	—
Double-acting do.	11 10..	14 0..	17	20	£24	£28....	£33	£38	—
Double-acting pump on base plate					27	32....	38	43	£50

* Calculated at 300 strokes per minute.

DOUBLE-ACTING PUMP ON BASE PLATE.

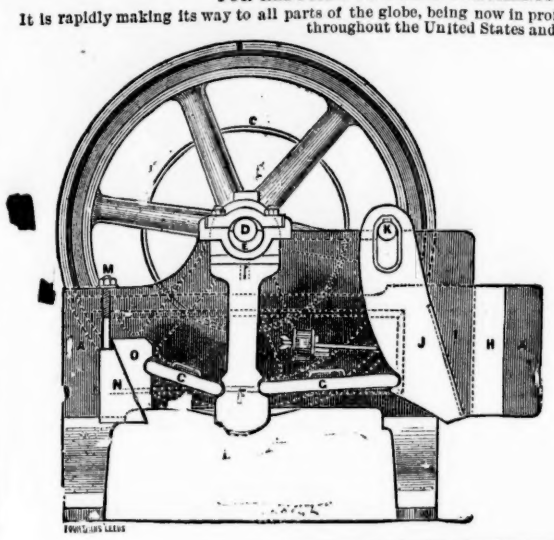
IMMENSE SAVING OF LABOUR.
TO MINERS, IRONMASTERS, MANUFACTURING CHEMISTS, RAILWAY COMPANIES, EMERY AND FLINT GRINDERS, McADAM ROAD MAKERS, &c., &c.

BLAKE'S PATENT STONE BREAKER,

OR ORE CRUSHING MACHINE,

FOR REDUCING TO SMALL FRAGMENTS ROCKS, ORES, AND MINERALS OF EVERY KIND.

It is rapidly making its way to all parts of the globe, being now in profitable use in California, Washoe, Lake Superior, Australia, Cuba, Chili, Brazil, and throughout the United States and England. Read extracts of testimonials :—



The Parys Mines Company, Parys Mines, near Bangor, June 6.—We have had one of your stone breakers in use during the last twelve months, and Captain Morcom reports most favourably as to its capabilities of crushing the materials to the required size, and its great economy in doing away with manual labour.
For the Parys Mining Company, JAMES WILLIAMS.
H. R. Marsden, Esq.

Ecton Emery Works, Manchester.—We have used Blake's patent stone breaker made by you, for the last 12 months, crushing emery, &c., and it has given every satisfaction. Some time after starting the machine a piece of the moveable jaw s about 20 lbs. weight, chilled cast-iron, broke off, and was crushed in the jaws of the machine to the size fixed for crushing the emery.
H. R. Marsden, Esq. THOS. GOLDSWORTHY & SONS.

Alkali Works, near Wednesbury.—I at first thought the outlay too much for so simple an article, but now think it money well spent. WILLIAM HUNT.

Welsh Gold Mining Company, Dolgelly,—The stone breaker does its work admirably, crushing the hardest stones and quartz. WM. DANIEL.

Our 15 by 7 in. machine has broken 4 tons of hard whinstone in 20 minutes, for fine road metal, free from dust. Messrs. ORD and MADDISON,
Stone and Lime Merchants, Darlington.

Kirkless Hall, near Wigan.—Each of my machines breaks from 100 to 120 tons of limestone or ore per day (10 hours), at a saving of 4d. per ton.
JOHN LANCASTER.

Ovoca, Ireland.—My crusher does its work most satisfactorily. It will break 10 tons of the hardest copper ore stone per hour. WM. G. ROBERTS.

General Frémont's Mines, California.—The 15 by 7 in. machine effects a saving of the labour of about 30 men, or $75 per day. The high estimation in which we hold your invention is shown by the fact that Mr. Park has just ordered a third machine for this estate. SILAS WILLIAMS.

For circulars and testimonials, apply to—

H. R. MARSDEN, SOHO FOUNDRY,

MEADOW LANE, LEEDS,
ONLY MAKER IN THE UNITED KINGDOM.

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CAUTION!

BLAKE'S PATENT STONE BREAKER,

In Chancery.

BLAKE v. ARCHER, NOVEMBER 12, 1867.

His Honour the Vice-Chancellor WOOD having found a VERDICT in FAVOUR of the PLAINTIFFS in the above Cause, establishing the VALIDITY of BLAKE'S PATENT, and made a DECREE for an INJUNCTION to RESTRAIN the DEFENDANTS, Messrs. THOMAS ARCHER and SON, of Dunston Engine-Works, near Gateshead-on-Tyne, from INFRINGING such PATENT, and ordering them to pay to the Plaintiffs the costs of the Suit.

ALL PERSONS are hereby CAUTIONED against MANUFACTURING, SELLING, or USING any STONE BREAKERS similar to BLAKE'S, which have not been manufactured by the Plaintiffs. Application will forthwith be made to the Court of Chancery for INJUNCTIONS AGAINST ALL PERSONS who may be found INFRINGING BLAKE'S PATENT after this notice.

SOLE MAKER IN ENGLAND,

H. R. MARSDEN, SOHO FOUNDRY, MEADOW LANE, LEEDS.

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PARIS EXHIBITION, 1867. SILVER MEDALS, CLASSES 40—51.

AWARDED THE ONLY FIRST-CLASS MEDAL FOR CRUCIBLES.

THE

PATENT PLUMBAGO CRUCIBLE COMPANY,

SOLE MANUFACTURERS UNDER MORGAN'S PATENT,

BATTERSEA WORKS, LONDON, S.W.

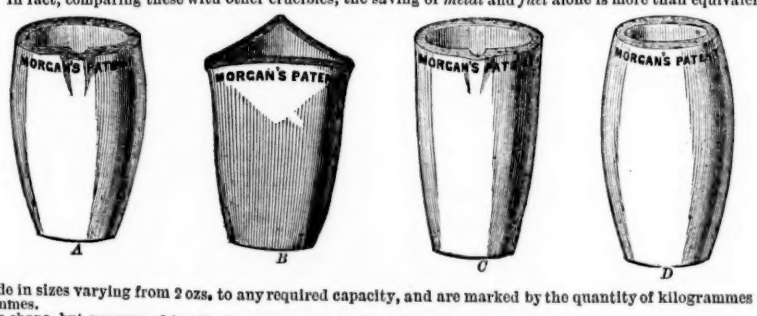
These Crucibles (MORGAN'S PATENT) *were the only ones to which Prize Medals were awarded in London*, 1862 ; *Dublin* 1865 ; *New Zealand*, 1865 ; *and Oporto*, 1865.

They have been in use for many years in the English, Colonial, French, and other Foreign Mints; the English, French, and other Arsenals ; and have been adopted by most of the large Engineers, Founders, and Refiners at Home and Abroad.

The capabilities which have now for more than twelve years distinguished these Crucibles are :—

Their quality is uniform. They withstand the greatest heat without danger. Their average durability for Gold, Silver, Copper, and other ordinary metals is forty to fifty pourings, in some cases reaching one hundred. They never crack, and heat more rapidly than any other kind. One annealing only is required. Change of temperature has no effect. They can when hot from the furnace be dipped in cold water with safety. The saving of labour and metal is very great. (Messrs. BREEDEN and BOOTH, Birmingham, testify to the saving of 1 ton 2 qrs. 21 lbs. 4 ozs. of metal in melting 73 tons 6 cwts. of brass.) In *Steel Melting* the saving of fuel has been denomstrated to amount to a ton and a half to every ton of steel fused. For *Zinc* they last longer than iron pots, and save the great loss which arises from mixture with iron. Those for *Malleable Cast-iron* show an average working of seven days, doing each day nearly double the work of any other crucible.

As these crucibles last much longer than any others, it follows that the saving of metal must be great, because to each worn crucible a quantity of metal adheres. In fact, comparing these with other crucibles, the saving of *metal* and *fuel* alone is more than equivalent to *their cost.*



A are made in sizes varying from 2 ozs. to any required capacity, and are marked by the quantity of kilogrammes they will contain ; thus No. 100 will contain 00 kilogrammes.
B differ in shape, but correspond in all other respects with *A*, and are similarly marked.
C are marked in English pounds—thus, a crucible marked 60 will contain 60 lbs.
D are made expressly for steel in various sizes.

MORGAN'S PATENT CRUCIBLES

Can be made any shape or size required, and are stamped as below :—

Having secured new Patents for our Manufacture, and to prevent fraudulent Imitations,

we call particular attention to our Trade Mark, as here shown.

"It follows, with the persistence of a law, that originators should be beset by imitators, just as in the natural world the finest organic forms are most liable to parasitical growth."—Miss METEYARD'S *Life of Josiah Wedgewood, the Potter.*

In all instances please specify "MORGAN'S PATENT," and address to—

BATTERSEA WORKS, LONDON, S.W.

Complete Illustrated List forwarded on application.

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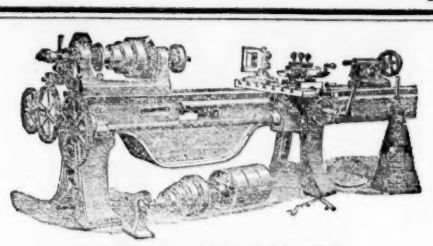

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Monthly Circulars forwarded free of charge.

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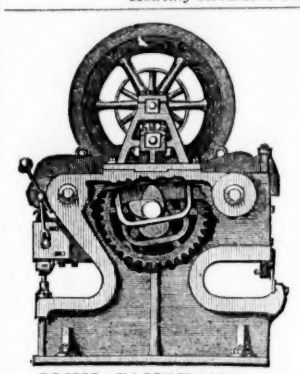

JOHN CAMERON'S
PATENT DOUBLE CAM LEVER PUNCHING and SHEARING MACHINE,
1¼ × 1¼ in. × 24 in.=8 tons, £185.
WORKS,
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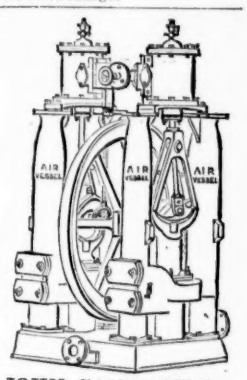

JOHN CAMERON'S
STEAM PUMPS,
From 2 to 12 in. diameter,
SINGLE AND DOUBLE-ACTING.
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EGERTON STREET, HULME, MANCHESTER.

125

BICKFORD'S PATENT SAFETY FUSE

Obtained the PRIZE MEDALS at the "ROYAL EXHIBITION" of 1851; at the "INTERNATIONAL EXHIBITION" of 1862, in London; at the "IMPERIAL EXPOSITION" held in Paris, in 1855; at the "INTERNATIONAL EXHIBITION," in Dublin, 1865; and at the "UNIVERSAL EXPOSITION," in Paris, 1867.

BICKFORD, SMITH, AND CO., of TUCKINGMILL, CORNWALL, MANUFACTURERS of PATENT SAFETY-FUSE, having been informed that the name of their firm has been attached to fuse not of their manufacture, beg to call the attention of the trade and public to the following announcement :—
EVERY COIL of FUSE MANUFACTURED by them has TWO SEPARATE THREADS PASSING THROUGH the COLUMN of GUNPOWDER, and BICKFORD, SMITH, AND CO. CLAIM SUCH TWO SEPARATE THREADS as THEIR TRADE MARK.

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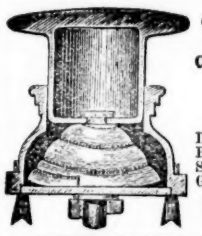
THOMAS TURTON AND SONS,



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GERMAN STEEL,	WM. GREAVES & SON

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Where the largest stock of steel, files, tools, &c., may be selected from.

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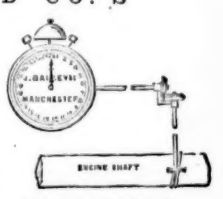
Illustrated catalogue of useful inventions, 6 stamps.



ALBION WORKS, SALFORD, LANCASHIRE.

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Swan Rope Works.

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CHAPEL STREET, LIVERPOOL,
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MANILLA ROPE of SUPERIOR QUALITY, FIFTY PER CENT. STRONGER and THIRTY PER CENT. CHEAPER than Russian hemp rope.
WIRE ROPE of FIRST QUALITY WIRE, and the HIGHEST STANDARD of STRENGTH.

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CURE YOURSELF BY THE PATENT SELF-ADJUSTING CURATIVE AND ELECTRIC BELT.—Sufferers from spermatorrhœa, nervous debility, painful dreams, &c., can now cure themselves by the only guaranteed remedy in Europe, protected by Her Majesty's great seal. Free for one stamp by H. JAMES, Esq., Percy House, Bedford-square, London.
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Reference to the leading Physicians of the day.
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LETTERS RECEIVE PROMPT ATTENTION.

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This agency affords West End operators facilities hitherto to be had only in the City. F. LIMMER, Secretary.
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Office hours, Ten till Four.

This agency, having reliable correspondents in all the great mining districts, gives particular attention to this class of security, and is in a position to advise what to buy, sell, or avoid.

FOR SALE, at nett prices, and FREE of COMMISSION :—

30 East Carn Brea, 19s.	2 Emily Henrietta, £41	15 Wh Kitty (St. Agnes),
20 Chiverton, £2.	5 Wheal Margaret, £6.	£2 8s. 9d.
10 East Caradon, £4.	50 No. Crofty, £2 3s. 9d.	65 New Quebrada.
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10 West Caradon, £4¾.	50 Mining Assoc., 1s. dis	100 Lovell Consols.
45 N. Treskerby, 16s. 9d.	100 Rossa Grande.	50 Tamar Valley, 12s 6d
10 Great Laxey, £17¼.	50 Don Pedro.	25 New Clifford, £2.
100 New Lovell.	20 Snaefell, 8s. 6d.	75 Montgomery. Lead &
90 So. Condurrow, 7s. 9d.	10 East Russell, 21s.	Barytes Co., £3.
3 Wt. Chiverton, £64¼.	35 Chontales, £1 16s. 3d.	60 Frontino, 13s. 3d.

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References exchanged.

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Bedford Consols, 12s. 6d.	Lucy Phillips, £5.	West Caradon, £4 12s. 6d
Caldbeck Fells, 14s. 3d.	Marke Valley, £6 17s. 6d.	West Drake Walls, 7s 6d.
Carn Brea, £20 10s.	North Treskerby, 17s. 6d.	W. Prince of Wales, 10s.
Chontales, £2.	North Crofty, £2 7s. 6d.	West Wheal Seton, £205.
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Chiverton Valley, £4 10s.	Pestarena, £2 12s. 6d.	Wheal Buller, £9.
Clifford Amalga., £5 5s.	Providence, £26.	Wheal Chiverton, £2.
Drake Walls, 10s.	Port Phillip, £1 12s. 6d.	Wheal Grenville, £1 13s.
Don Pedro, £2 19s.	Prosper United, 12s. 6d.	Wh. Mary Ann, £22 10s.
East Carn Brea, 17s. 6d.	P. of Wales, ex div., £2 4 6	Wheal Seton, £85.
East Russell, 12s. 6d.	Rossa Grande, 19s.	Wheal Kitty (St. Agnes),
East Caradon, £4 5s.	South Darren, £1 12s. 6d.	£2 12s. 6d.
East Lovell, £7 15s.	St. John del Rey, £19.	Wheal Trelawny, £8 17 6
Frontino, 14s. 3s (call pd.)	South Frances, £20.	Wheal Uny, £2 5s.
Great Wh. Vor, £17 10s.	So. Condurrow, 10s.	Yudanamutana, £2 2s 6d

Money advanced on marketable mine shares at 5 per cent. per annum.
Buyers can have transfers registered prior to payment, if desired, on giving respectable references.
J. S. and Co. having in their employ several of the most experienced and trustworthy mine agents in the United Kingdom, who periodically inspect on their behalf all the *bona fide* mines in Devon, Cornwall, and Wales, are enable to accord to their friends and clients reliable advice as to the present and future prospects of mines they deem worthy the attention of investors.
References will be given to the Alliance Bank and the Bank of England.

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a first-class COPPER MINING PROPERTY TO BE SOLD, at £100 per twentieth share. The mine is all that can be desired as to position and promise, free from debts of every description, and likely soon to prove a prize of first character.
None need to apply who do not embark for investment, as no attempt will be made to render the company a market favourite until the pioneer points of operation are realised, and which will take twelve months to accomplish.
Apply to— Mr. R. TREDINNICK, Consulting Mining Engineer, 3, Crown-chambers, Threadneedle-street, London.

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DESIGNS MACHINERY FOR MINES, AND
LAYS OUT CHARTS FOR THE UNDERGROUND WORKINGS.
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Shares.	Mines.	Paid.	Last Pr.	Business.	Total divs.	Per share.	Last paid.
1500	Alderley Edge, *c*, Cheshire*	10 0 0	—		9 11 8	0 4 0	April 1868
200	Botallack, *t. c*, St. Just	91 5 0	—		488 15 0	5 0 0	May 1868
4000	Brookwood, *c*, Buckfastleigh	1 11 0	—		0 10 0	0 2 6	April 1868
1000	Bronfloyd, *l*, Cardigan*	12 0 0	—		9 9 0	0 6 0	May 1868
6400	Cashwell, *l*, Cumberland*	2 10 0	—		0 1 6	0 1 6	Aug. 1866
916	Cargoll, *s-l*, Newlyn	15 5 7	—		14 5 0	0 10 0	Jan. 1868
509	Creegbrawse and Penkevil, *t*	—	—		2 5 0	1 5 0	April 1868
867	Cwm Erfin, *l*, Cardiganshire*	7 10 0	—		26 13 0	0 15 0	April 1868
128	Cwmystwith, *l*, Cardiganshire	60 0 0	—		381 10 0	2 0 0	Dec. 1867
280	Derwent Mines, *s-l*, Durham	300 0 0	—		174 10 0	5 0 0	June 1867
1024	Devon Gt. Consols, *c*, Tavistock†	1 0 0	455		1102 0 0	7 0 0	May 1868
656	Ding Dong, *t*, Gulval‡	49 14 6	—		0 10 0	0 10 0	Sept. 1867
358	Dolcoath, *c*, *t*, Camborne	128 17 6	—		844 10 0	4 0 0	April 1868
6144	East Caradon, *c*, St. Cleer†	2 14 6	4⅝	4 4¼	14 11 6	0 2 0	July 1867
300	East Darren, *l*, Cardiganshire	32 0 0	—		154 10 0	2 0 0	April 1868
128	East Pool, *t*, *c*, Pool, Illogan	24 5 0	—		432 10 0	5 0 0	May 1868
1906	East Wheal Lovell, *t*, Wendron	3 9 0	7¾	7 8	4 1 6	0 10 0	May 1868
2800	Foxdale, *l*, Isle of Man*	25 0 0	—		71 0 0	0 10 0	Sept. 1867
5000	Frank Mills, *l*, Christow	3 18 6	—		3 5 6	0 5 0	Feb. 1866
3950	Gawton, *c*, Tavistock	3 10 6	—		0 3 0	0 3 0	Jan. 1868
15000	Great Laxey, *l*, Isle of Man*	4 0 0	17¼		8 5 0	0 10 0	Mar. 1868
5908	Great Wheal Vor, *t*, *c*, Helston†	40 0 0	18½	16½ 17½	12 15 6	0 7 6	Mar. 1868
1024	Herodsfoot, *l*, near Liskeard†	8 10 0	40		45 0 0	1 10 0	Feb. 1868
6000	Hingston Down, *c*, Calstock†	5 10 6	—		0 10 0	0 5 0	April 1866
165	Levant, *c*, *t*, St. Just	10 8 1	—		1093 0 0	2 0 0	May 1868
400	Lisburne, *l*, Cardiganshire	18 15 0	—		501 10 0	3 0 0	Feb. 1868
3000	Maes-y-Safn, *l*, Flint*	20 0 0	—		3 15 0	0 15 0	April 1868
9000	Marke Valley, *c*, Caradon	4 10 6	7	6¾ 7	4 8 6	0 4 0	April 1868
3000	Minera Boundary, *l*, Wrexham*	1 0 0	—		0 13 0	0 3 0	Mar. 1866
1800	Minera Mining Co. *l*, Wrexham*	25 0 0	170	165 170	233 13 0	5 0 0	May 1868
20000	Mining Co. of Ireland, *c*, *l*, *cl*	7 0 0	—	18⅞	—	0 5 7	Jan. 1867
40000	Mwyndy Iron Ore*	3 5 0	—		0 8 6	0 2 0	Mar. 1868
200	Parys Mines, *c*, Anglesey*	50 0 0	—		160 0 0	2 10 0	Mar. 1868
12800	Prince of Wales, *t*, Calstock	0 12 6	2⅜	2⅛ 2¼	0 6 6	0 2 0	May 1868
6000	Prosper United, *t*, *c*, St. Hilary	8 14 0	—		0 5 0	0 5 0	Feb. 1867
1120	Providence, *t*, Uny Lelant†	10 6 7	27	25 27	84 12 6	0 10 0	Feb. 1868
512	South Caradon, *c*, St. Cleer†	1 5 0	405		586 10 0	6 0 0	May 1868
6000	South Darren, *l*, Cardigan*	3 6 6	—		0 11 6	0 1 6	May 1868
496	So. Wh. Frances, *c*, Illog.†	18 18 9	19		374 13 6	1 0 0	Mar. 1868
508	Summer Hill, *l*, Mold	3 13 6	—		2 5 6	0 5 0	Feb. 1868
6000	Tincroft, *c*, *t*, Pool, Illogan†	9 0 0	15	14 14½	19 11 0	0 5 0	May 1868
2000	Trumpet Cons., *t*, Helston	11 10 0	—	10 12	12 10 0	0 10 0	Mar. 1868
3000	W. Chiverton, *l*, Perranzabuloe†	10 0 0	64½	63½ 64½	27 7 6	2 0 0	May 1868
5000	West Godolphin, *t*, *c*, Breage	0 1 0	—		0 2 0	0 2 0	Dec. 1867
400	W. Wheal Seton, *c*, Camborne†	47 10 0	210	200 205	494 0 0	5 0 0	April 1868
512	Wheal Basset, *c*, Illogan†	5 2 6	65	62½ 67½	631 10 0	1 0 0	April 1868
1024	Wheal Friendship, *c*, Tavistock	20 0 0	—		300 10 0	0 10 0	Nov. 1866
512	Wheal Jane, *s-l*, Kea	10 10 0	—		—	2 0 0	Jan. 1868
4295	Wheal Kitty, *t*, St. Agnes	5 4 6	—	2½ 2¾	3 7 0	0 2 0	May 1868
1024	Wheal Mary Ann, *l*, Menheniot†	8 0 0	22½	22 23	64 5 0	0 17 6	Mar. 1868
80	Wheal Owles, *t*, St. Just†	70 0 0	—		350 13 0	7 10 0	Feb. 1868
396	Wheal Seton, *t*, *c*, Camborne	58 10 0	82½	80 85	254 15 0	2 0 0	Feb. 1868
3000	Whitewell Lead, Clitheroe*	0 5 0	—		1 0 0	0 10 0	Dec. 1867
17000	Wicklow, *c*, *i*, Wicklow	2 10 0	—	13¾	48 16 0	0 6 0	April 1868

FOREIGN DIVIDEND MINES.

25000	Alamillos, *l*, Spain*†	2 0 0	1⅞	1¾ 2	0 2 6	0 1 6	Mar. 1868
20000	Australian, *c*, South Australia‡	7 7 6	—		0 1 0	0 1 0	Aug. 1867
15000	Cape Copper Mining*†	7 0 0	11⅜	12¼ 12¾	3 2 6	0 10 0	Feb. 1868
76162	Don Pedro North del Rey*†‡	0 14 0	2⅞	2⅜ 2⅞	0 15 9	0 5 0	Mar. 1868
70000	English and Australian, *c*†	2 10 0	⅞	¾ ⅞	—	0 1 0	Feb. 1868
25000	Fortuna, *l*, Spain*†	2 0 0	2	1¾ 2	1 9 4	0 2 0	Mar. 1868
20000	Gen. Mining Assoc., Nova Scotia†	20 0 0	—		23 10 0	0 15 0	June 1867
10000	Gonnesa, *l*,* [5000 £5 pd., 5000 £4 pd.]		—		10 per cent.		July 1867
68000	Kapunda Mining Co., Austral‡	1 0 0	—		0 1 4	0 0 6	May 1868
15000	Lluares, *t*, Spain*†	3 0 0	2½	2 2¼	11 11 8	0 3 4	Mar. 1868
50000	Panuelillo, *c*, Chili*†	3 0 0	2	1¾ 2¼	10 per cent.		Yearly.
6000	Peel River Land and Mineral*†	100 0 0	—		—	—	
100000	Pontgibaud, *s-l*, France†	20 0 0	12		5 6 2	0 11 11	May 1868
10000	Port Phillip, *g*, Clunes†	1 0 0	1¾	1½ 1⅝	1 1 0	0 1 0	May 1868
20000	Scottish Australian Min. Co.†	1 0 0	1¼		8 per cent.		May 1868
11000	St. John del Rey, Brazil*†	15 0 0	18½	17¾ 18¼	81 10 0	4 5 0	Dec. 1867
13500	Vancouver, *cl*†‡	6 0 0	4¾	4½ 5	10 per cent.		May 1868
50000	Victoria (London) [25000 £1 pd., 25000 12s. 6d. pd.]				0 9 0	0 1 0	Jan. 1866
40000	West Canada Mining Co.*	1 0 0	—		0 19 6	0 2 6	May 1866

NON-DIVIDEND FOREIGN MINES.

Shares.	Mines.	Paid.	Last Pr.	Bus. done.	Last Call.
50000	Anglo-Argentine, *s*, Argentine Republic*	1 0 0	—		
100000	Anglo-Brazilian, *g*†‡	0 10 0	¾	¾ ⅞	Nov. 1866
12500	Anglo-Italian, *g*†‡	0 10 0	—		Jan. 1868
20000	Australian United, *g*	1 0 0	—		Mar. 1868
2464	Burra Burra, *c*, South Australia‡	5 0 0	35		
20000	Capula, *s*, Mexico*†	1 14 6	—		May 1868
30000	Chontales, *g*, *s*, Nicaragua*†	5 0 0	1⅞	1¾ 2	Mar. 1868
12000	Cobre Copper Company, *c*, Cuba†‡*	45 10 0	—		Jan. 1868
10000	Copiapo Mining Company, Chili†‡	16 10 0	—		
10000	Copiapo Smelting, Chili*	10 0 0	—		April 1866
300	Copper Miners' Co. of South Australia* [150 £100 pd., 150 £70 pd.]		—		Nov. 1866
15000	El Chico Silver Mining and Reduction Company*	5 0 0	—		Nov. 1866
40000	Fortune Copper Mining Co. of Western Australia	2 0 0	—		Fully pd.
50000	Frontino and Bolivia, *g*, New Granada*†	1 17 6	¾	10s. 14s.	April 1868
10000	Great Barrier Land, Mining, &c., New Zealand	5 0 0	—		Fully pd.
80000	Great Northern, *c*, South Australia†	1 11 6	—		Sept. 1862
7927	Lusitanian (Portugal)†‡	3 0 0	—		
83640	Mariquita, *g*, *s*, New Granada	1 0 0	—		Feb. 1868
12500	Nerbudda Coal and Iron, India*†	6 0 0	—		Dec. 1867
51000	New Quebrada, *c*, Venezuela*†	3 10 0	—		
15000	Otea, *c*, New Zealand*	2 0 0	—		Fully pd.
80000	Pestarena United, *g*, Italy*†	2 15 0	2½	2⅜ 2⅝	
10178	Rhenish Consolidated, [6000 £5 pd., 4178 £2 10s. pd.]		—		May 1866
100000	Rossa Grande, *g*, Brazil*†	0 14 0	⅜	19s. 21s.	June 1867
15000	San Pedro del Monte, *s*, Mexico*	4 0 0	—		Sept. 1866
10000	San Roque, *l*, Spain	5 0 0	—		Fully pd.
100000	Taquaril, *g*, Brazil*	0 5 0	—		Oct. 1867
6000	Terreseu, *s-l*, Isle of Sardinia	2 0 0	—		
43174	United Mexican, *s*, Mexico†‡*	28 7 6	1¾	1¼ 1¾	May 1868
30000	Val Antigoria, *g*, Italy*	1 2 6	⅜		
6000	Val Sassam, *s*, *c*, *l*, Italy*†	7 0 0	—		Aug. 1867
45000	Victor Emanuel, *c*, Italy*	1 0 0	—		Fully pd.
20000	Washoe, *g*, Nevada†	5 0 0	—		Fully pd.
80000	Worthing, *c*, South Australia*†	1 0 0	—	⅜ ½	Fully pd.
75000	Yorke Peninsula, South Australia	1 0 0	⅜	⅛ ⅜	Fully pd.
45000	Yudanamutana, *c*, South Australia*†‡	3 0 0	2⅛	1⅞ 2⅛	Fully pd.

NON-DIVIDEND MINES.

Shares.	Mines.	Paid.	Last Pr.	Bus. done.	Last Call.
914	Caradon Consols *c*, St. Cleer	32 13 6	—		Aug. 1867
1000	Carn Brea, *c*, *t*, Illogan‡	28 0 0	20	19 21	May 1867
5000	Carnarvonshire, *l*, Carnarvon*	4 0 0	6		Fully pd.
3000	Chiverton, *l*, Perranzabuloe	10 0 0	2¼	1¾ 1⅞	Feb. 1868
3000	Chiverton Moor, *l*, Perranzabuloe	6 8 6	6¼	6 6¼	Aug. 1867
2880	Clifford Amalgamated, *c*, Gwennap‡	33 17 6	5½	5 5½	June 1867
2450	Cook's Kitchen, *c*, Illogan‡	19 14 9	11¼	10 11	July 1866
12800	Drake Walls, *t*, Calstock‡	2 5 0	—		Dec. 1866
512	East Basset, *c*, Redruth†‡	34 10 0	—	7½ 8	Mar. 1868
6000	East Carn Brea, *c*, Redruth‡	3 18 0	1	¾ ⅞	April 1868
6000	East Grenville, *c*, Camborne	3 17 6	37s.		May 1868
4000	East Wheal Russell, *c*, Tavistock†	13 2 6	—		April 1868
6144	Gonamena, *c*, St. Cleer	7 6 9	—		April 1868
5000	Great North Downs, *c*, Redruth	6 13 0	4½	3¾ 4	Feb. 1867
4800	Great Retallack, *s-l*, *b*, Perranzabuloe	2 13 6	2⅛	2¼ 2⅜	April 1868
5143	Great South Tolgus, *c*, Redruth	1 8 0	⅜		April 1868
1798	Great Wheal Fortune, *t*, Breage	31 7 4	—		Mar. 1868
1024	Nangiles, *t*, *c*, Kea	30 12 0	—		May 1868
400	New Wheal Seton, *c*, Camborne	60 10 0	—		April 1868
3457	North Downs, *c*, Redruth	5 8 10	1⅜	26s. 28s.	Jan. 1868
695	North Roskear, *c*, Camborne	59 9 0	13		May 1868
5936	North Treskerby, *c*, St. Agnes	1 9 0	18s.	16s. 18s.	Dec. 1860
5610	North Wheal Crofty, *c*, Illogan†	3 11 3	2½	2 2¼	July 1866
3000	North Wheal Chiverton, *l*, Perranzabuloe	4 0 0	—		Mar. 1867
5000	Old Westminster, *l*, Denbigh	2 0 0	6		June 1867
8465	Pedn-an-drea, *t*, Redruth	6 8 6	—		Nov. 1867
1024	Rose and Chiverton United, *l*, Newlyn	5 10 0	—		Feb. 1868
6138	South Condurrow, *t*, *c*, Camborne	4 0 6	—		Feb. 1868
940	St. Ives Consols, *t*, St. Ives‡	10 15 0	7		Nov. 1867
920	Stray Park, *c*, *t*, Camborne†	45 5 8	2¼	2 2½	April 1868
6000	Tamar Valley, *s-l*, Beeralston	0 7 6	—		Feb. 1868
548	Trelyon Consols, *t*, St. Ives	16 0 0	4	3½ 4	Dec. 1866
6000	West Basset, *c*, Illogan†‡	2 0 0	—		May 1868
1024	West Caradon, *c*, St. Cleer†‡	20 10 0	4⅜		Mar. 1868
12800	West Drake Walls, *c*, Calstock	0 5 0	—		Feb. 1868
2582	West Great Work, *t*, Breage	5 11 0	—		June 1866
6000	West St. Ives, *t*, *c*, St. Ives	0 2 6	—	9s. 11s.	May 1868
512	West Wheal Frances, *t*, Illogan	106 15 0	25	30 35	
5000	West Wheal Kitty, *t*, St. Agnes	3 2 0	⅜	⅜ ¾	April 1868
6000	Wheal Agar, *c*, Illogan	7 11 0	—		Jan. 1867
512	Wheal Buller, *c*, Redruth†‡	25 10 0	10	8 9	May 1868
811	Wheal Emily Henrietta, *c*, Illogan	20 0 0	42	38 40	Jan. 1868
5724	Wheal Grenville, *c*, Camborne†	10 6 0	35s.	34s. 36s.	Mar. 1868
1040	Wheal Trelawny, *s-l*, Liskeard†	7 12 0	9		Mar. 1868
5000	Wheal Uny, *t*, *c*, Redruth	10 14 6	2¼	2 2¼	Oct. 1867

NON-DIVIDEND MINES.

Shares.	Mines.	Paid.	Last Pr.	Bus. done.	Last Call.
2562	Abraham Cons., *t*, *c*, Crowan	1 7 0	—		
4000	Ballacorkish, I. of Man, *l*, *c**	3 10 0	—		
4000	Bedford Consols, *c*, Tavistock	2 15 0	—		
4000	Bedford United, *c*, Tavist.*	2 10 8	—		
1031	Bedol Aur, *l*, Holywell	1 17 0	—		
1248	Boscaswell, *t*, *c*, St. Just	7 6 0	—		
2500	Bosworthen and Penzance	4 0 0	—		
5000	Bottle Hill, *t*, Plympton	1 14 6	—		
5000	Bryn Gwiog, *l*, Flint	0 18 0	—		
1200	Bryn Gwyn, *l*, Mold*‡	9 0 0	—		
1000	Budnick Consols, *c*	1 0 0	—		
5094	Bwich Consols, *s-l*, Cardigan	4 0 0	—		
30000	Caldbeck Fells, *l*, Cumberld.*	1 15 0	—	⅜	
1000	Camborne Consols, *c*	18 10 0	—		
11000	Cape Cornwall, *t*, *c**	[8000 £2 10s. pd., 3000 25s. pd.]			
5000	Capel Banhaglog, *l*, Mont	1 10 0	—	1⅞	
1000	Cardynham China-clay*	3 0 0	—		
6000	Carn Camborne, *c*, Cambrn.	2 6 0	—		
4005	Cardigan Consols*	5 0 0	—		
600	Cardiganshire, *l**	17 10 0	—		
20000	Carysfort [3200 £2½ pd., 16800 £1½ pd.]				
2500	Central Minera, *l*, Wrexham*	3 17 6	—		
16000	Central Snailbeach *l**	1 0 0	—		
3000	Chiverton Valley, *l*, Perranz.	2 0 0	5		4½
2048	Colquite & Callington Un., *c*.	0 15 0	—		5
256	Condurrow, *c*, *t*, Camborne†	76 10 0	—		
50000	Connorree, *c*, *sul*, Wicklow*	1 0 0	—		6s. 7s.
983	Copper Hill, *c*, Redruth‡	12 10 0	—		
1055	Craddock Moor, *c*, St. Cleer†	13 10 0	—		
12000	Crelake, *c*, Tavistock	3 12 0	—		
6000	Cuddra, *t*, St. Austell	5 5 0	—		
25000	Dundalk, Ireland, *l**	0 15 0	—		
740	Eaglebrook, *l*, Talybont*	19 15 0	—		
1000	East Basset and Grylls, *t*	3 5 0	—		
6000	East Bottle Hill, *t*	0 11 0	—		
4000	East Chiverton, *l*, Perranz.	2 19 3	—		
4000	E. Gunnislake & S. Bed. *c*	10 15 0	—		
6000	East Laxey, *l*, Isle of Man	2 15 0	—		
6000	East Neptune, *c*, Marazion	—	—		
5000	E. Rosewarne, *c*, *t*, Gwinear	2 17 0	—		
6000	East Snaefell, *l*, I. of Man*	2 10 0	—		
5610	East Seton, *c*, Camborne	0 13 6	1	1	1⅛
1190	E. Wh. Agar, *c*, St. Cleer	12 17 0	—		
5000	E. Wh. Rose Con., *l*, Per.*	2 10 0	¾		
6000	Ebury Lead Min. Co., Flint*	1 15 0	—		
6000	Fortescue Cons., *c*, Tavistock	0 12 6	—		
940	Fowey Con., *c*, Tywardreath‡	5 4 6	—		
1026	Garden, *c*, Morvah	6 0 3	—		
6000	Gen. Min. Co. for Ireland, *c*,	5 10 0	—		
10000	Glan Alun, *l*, Mold	0 6 0	⅝		7s. 8s.
40000	Glasgow Caradon *c* [30000 £1 pd., 10000 15. pd.]				
5700	Goginan, Cardigan, *l*	12 10 0	—		
6000	Gothic, *s-l*, Cardigan*	2 10 0	—		
486	Grambler & St. Aubyn, *c*†‡	74 0 0	—		
10000	Great Cwmsymlog, *s-l**	1 15 0	—		
4096	Great Caradon, *c*, St. Ive	3 19 0	—		
3000	Gt. Chiverton, *s-l*, Perranz.*	3 10 0	—		
5000	Great Mona, *l*, Isle of Man*	4 0 0	—		
12500	Gt. No. Laxey (Isle of Man)*	0 15 0	—		
1000	Great N. Tolgus, *c*, Illogan	10 0 0	—		
15000	Great Rhosesmor, *l*	5 0 0	—		
6000	Gt. S. Chiverton, *s-l*, Perranz	1 13 0	—		
3313	Gt. Wh. Baddern, *t*, Devoran	7 17 6	—		
119	Great Work, *t*, Germoe	100 0 0	—		
10240	Gunnislake (Clitters), *t*, *c*	4 19 0	—		
6068	Gwydyr Park, *l*, Llanrwst	1 14 6	—		
6400	Harwood, *l*, Durham*	0 7 6	—		
1000	H